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Natural
Resources
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In cooperation with
Regents of the University
of California (Agricultural
Experiment Station);
United States
Department of the
Interior, Bureau of Land
Management; United
States Department of
Agriculture, Forest
Service; California
Department of Forestry
and Fire Protection

Soil Survey of Susanville Area, Parts of Lassen and Plumas Counties, California

Part I



How To Use This Soil Survey

This survey is divided into three parts. Part I includes general information about the survey area; descriptions of the detailed soil map units and soil series in the area; and a description of how the soils formed. Part II describes the use and management of the soils and the major soil properties. Part III includes the maps.

The **detailed soil map units** follow the general information about the survey area. These map units can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**, note the number of the map sheet, and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Index to Map Units** in Part I of this survey, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Summary of Tables** shows which table has data on a specific land use for each detailed soil map unit. See **Contents** for sections of this publication that may address your specific needs.

A **State Soil Geographic Database (STATSGO)** is available for this survey area. This database consists of a soils map at a scale of 1 to 250,000 and descriptions of groups of associated soils. It replaces the general soil map published in older soil surveys. The map and the database can be used for multi-county planning, and map output can be tailored for a specific use. More information about the State Soil Geographic Database for this survey area, or any portion of California, is available at the local office of the Natural Resources Conservation Service.

Some standards or values may change as more information is collected and analyzed. Thus, as older published interpretive information becomes outdated, new interpretive data must be generated and tailored to local conditions. This information is added to the State Subset of the **National Soil Survey Information System (NASIS)** database as needed. Map Unit Records are the soil survey specific data and interpretations in the National Soil Survey Information System database.

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1987. Soil names and descriptions were approved in 2000. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2000. This survey was made cooperatively by the Natural Resources Conservation Service and the Regents of the University of California, (Agricultural Experiment Station); United States Department of Interior, Bureau of Land Management; United States Department of Agriculture, Forest Service; California Department of Forestry and Fire Protection. The survey is part of the technical assistance furnished to the Honey Lake Valley Resource Conservation District.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

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Cover: A typical view of the salt-desert shrub vegetation in Honey Lake Valley. Bobert sandy loam, 0 to 2 percent slopes with Saline-sodic loam 6 to 12 rangeland ecological site is in the foreground.

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Foreword

This soil survey has been developed by the Natural Resources Conservation Service, America's Private Lands Conservation Agency. The soil survey contains information that affects land use planning and other aspects of natural resources conservation in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, ranchers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.



Chuck Bell
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Soil Survey of Susanville Area, Parts of Lassen and Plumas Counties, California

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United States Department of Agriculture, Natural Resources Conservation Service
in cooperation with
Regents of the University of California, (Agricultural Experiment Station); United States Department of the Interior, Bureau of Land Management; United States Department of Agriculture, Forest Service; California Department of Forestry and Fire Protection

General Nature of the Survey Area

The survey area is located in the eastern part of Lassen County and the northeastern part of Plumas County. It has an area of 1,961,794 acres, or about 3,065 square miles. The eastern boundary of the survey area is the state line between Modoc County and the Modoc National Forest, on the west by the Lassen National Forest and the Plumas National Forest, and on the south by the Sierra Valley Survey Area. The main body of the survey area is about 85 miles north to south and about 40 miles east to west. The area in Plumas County joins Lassen County on the west side of the survey area. This part of the survey area, about 144,000 acres in and surrounding the Almanor Basin, is separated from the remainder of the area by a six-mile wide portion of the Lassen National Forest.

Soils in the Honey Lake Valley are used for irrigated agriculture, livestock grazing and wildlife habitat. Some areas are used for urban development. Most areas on the hills, mountains, and basins north and south of the Honey Lake Valley are used for livestock grazing with small areas of irrigated agriculture. The mountains west of the Honey Lake Valley and in the Almanor Basin are used for timber production, livestock grazing and urban development. Elevation ranges from 3,980 feet at Honey Lake to 7,964 feet on Observation Peak.

Two earlier soil surveys that include part of the area have been published. The oldest is the Soil Survey of the Honey Lake Area, published in 1917. Soils of the Sierra

Army Depot was published in 1968. A reconnaissance survey of Lassen County was published in 1967. The present survey updates all earlier surveys and provides additional information and larger maps that show the soils in greater detail.

Descriptions, names, and delineations of soils in this soil survey do not fully agree with those on soil maps for adjacent survey areas. Differences are the result of better knowledge of soils, modifications in series concepts, intensity of mapping, or the extent of soils within the survey.

This section gives general information about the survey area. It briefly discusses history; water supply; natural vegetation; physiography, relief, and drainage; and climate.

History and Development

A few miners and trappers entered the Honey Lake Valley prior to 1849. By the early 1850's there was a permanent settlement in the valley. These settlers pastured stock on the bottom lands, cut native bunchgrass hay, and mined. Flood irrigation of grasslands began in 1854 and crops included potatoes, small orchards, and gardens. In 1864, Lassen County was created from parts of Plumas and Shasta Counties.

Further agricultural development depended on the provision of irrigation and transportation. Numerous reservoirs were built in the 1880's and 1890's, including Ward Lake, Round Valley Reservoir, McCoy Reservoir, Hog Flat Reservoir, and Buckhorn Reservoir. In particular, Leavitt Lake Reservoir was built in the 1880's to irrigate alfalfa on the higher terraces around Standish. These reservoirs stored water to increase the extent and productivity of agriculture.

Prior to 1891, the Nevada, California, and Oregon Railway (narrow gauge) was the only means of shipping from the Honey Lake Valley. Between 1891 and 1913 a road was completed from Amedee to Lakeview, Oregon, the Western Pacific Railway built through the valley to provide transcontinental service, and the Southern Pacific Railroad extended the main line of the Ogden Route from Fernley, Nevada to Susanville.

By 1910 the population in the Honey Lake Valley was about 2,000. Crops grown within the valley included native grass, alfalfa, wheat, barley, rye, potatoes, strawberries, melons, sugar beets, and fruit trees. Most of these were consumed within the valley.

Up to the present, beef production has dominated agriculture. Cattle graze on range land, native, and irrigated pasture, and consume most of the irrigated alfalfa. Strawberry plant production has increased in the last ten years to nearly equal revenues produced by cattle ranching.

The first lumbering activities were in Honey Lake Valley in the 1890's where lumber was barged across Honey Lake from Janesville and Milford to the Nevada, California, and Oregon (NCO) railroad at Amedee. Just after the turn of the century, there was a sawmill operating above Dry Valley. In 1912, a sawmill was constructed a quarter of a mile above Bayley Reservoir. Two years later, in 1914, the Red River Lumber Company started its first mill at Westwood, although the first log had been felled in 1912. Red River Lumber Company produced boxes, wooden Venetian blinds, plywood, windows, and doors. These products were shipped all over the United States and the rest of the world. The electric generating facility at Westwood supplied electricity for the company's mills and railroad, the town of Westwood, and had a surplus which the company sold to Susanville. When in peak production, the power plant used 600 cords of wood a day. In 1942, the Westwood mill sawed 212 million board feet which was a record at the time. In 1936, Red River opened a mill in Susanville. Red River Lumber Company sold out in 1944 to Fruit Growers Supply.

The three largest towns in the area are Susanville, the Lassen County seat, Westwood, and Chester. According to the 1980 census, Susanville has a population of 6,654; Westwood has a population of 2,898; and Chester has a population of 3,524. Other small communities include

Doyle, Herlong, Janesville, Milford, Standish, Litchfield, Wendel, Ravendale, Termo, Madeline, and the Sierra Army Depot. The population of Lassen County is 21,675.

Fifty-three percent of the area is privately owned. Federal and State of California agencies administer the rest. The Bureau of Land Management administers 43 percent, the Department of Defense administers two percent, the National Forests administer one percent, and the California Department of Fish and Game administers one percent.

Recreational opportunities attract hunters, campers, fishermen, and boaters. Mule and black tail deer, pronghorn, waterfowl, and upland game birds are the chief game species. Eagle Lake and Lake Almanor provide marinas, water skiing, and fishing.

Major highways provide access to and through the area. These include U.S. Highway 395 and California State Highways 36, 44, and 139. Numerous county roads provide access to all communities. Most shipping is by truck, although there is rail service to Chester, Susanville, Wendel, Herlong, and Doyle.

Physiography, Relief, and Drainage

The survey area consists mainly of mountains and structural basins of the Great Basin. The principal mountains are various basaltic and andesitic mountains and flows which comprise the southern end of a series of tertiary and quaternary flows of the Cascade Mountain Range, and the extreme northern end of the Sierra Nevada Range, here appearing as the up-throw side of a tilted block. There are two large basins in the survey area, the Honey Lake Valley, at an elevation of 4,000 feet, in the southeast portion and Madeline Plains in the north, with an elevation of about 5,300 feet. These basins are filled with lacustrine sediments. The majority of the hillslopes are gently sloping to moderately steep and the surfaces are very stony.

The survey area has two distinct drainage patterns. The west side of the area, in the Lake Almanor basin, drains west to the Sacramento Valley and the Pacific Ocean. The east side drains flow east and terminate in enclosed basins. The major water bodies in the survey area include large natural lakes and manmade reservoirs. Honey Lake, a remnant of ancient Lake Lahontan, receives runoff from the Susan River and Long Valley Creek and is located southeast of Susanville. Neither Honey Lake nor Eagle Lake, located north of Susanville, have outlets. Lake Almanor is a manmade reservoir on the Feather River near Chester.

Water Supply

Water in this soil survey area is available from streams, reservoirs, springs, and wells. Quality of water is fair to good. Runoff from rainfall and snowfall is the main source of water. The Susan River and Willow Creek, Goodyear Creek, McCoy Flat and Hog Flat reservoirs provide most of the surface water used for irrigation. Numerous smaller reservoirs provide surface water for irrigation in localized areas. Three water districts provide water to a portion of the Honey Lake Valley. The largest, Leavitt Lake district provides water from McCoy Flat Reservoir.

Ground water provides a large part of the water used for irrigation and domestic use in the area. The ground water is replenished by the deep percolation of direct precipitation, seepage from streams, and excess irrigation water in the area.

There are several problems with the water supply in the area. Surface water is dependent on rainfall. In dry years, surface water can be gone by June 1st. Ground water is expensive because of the high pumping costs. Development of new deep wells in the past 10 years has resulted in a lowering of the water table.

Natural Vegetation

The natural vegetation depends primarily on precipitation which increases from a low in the eastern Honey Lake Valley to a high in the Almanor Basin.

Dry range land occurs in the eastern part of the survey area. They support shrub and grass plant communities. On remnant lakebeds affected by salt or alkali, the vegetation consists of shadscale, bud sagebrush, spiny hopsage, black greasewood, and salt grass. Upland soils on volcanic rock support Thurber needlegrass, bluebunch wheatgrass, Idaho fescue, and low or big sagebrush. Upland soils on granitic rock or alluvium support Indian ricegrass, needlegrasses, big sagebrush, bitterbrush, and desert peach.

Woodlands extend from the desert plateaus near the Nevada state line to the Almanor Basin. The driest woodland plant communities consist of western juniper and curleaf mountainmahogany. Black oak and yellow pine woodlands with an understory of bitterbrush are on the foothills west of Susanville. All low elevations to the west are covered with mixed coniferous forest. The overstory may include Jeffrey or ponderosa pine, sugar pine, white fir, incense cedar, and lodgepole pine. The understory may include greenleaf manzanita, mountain whitethorn, snowbrush ceanothus, and squawcarpet. High elevations support a pure stand of white fir or

California red fir. Aspen groves may occur wherever there is additional moisture from springs or seeps.

Meadows occur on floodplains on poorly drained soils throughout the survey area, but the largest ones are northwest of Honey Lake, in Elysian Valley, east of Westwood and northwest of Lake Almanor. They consist of perennial grasses and forbs, sedges, and rushes.

The perennial grass component of most plant communities has been reduced by overgrazing. Introduced annuals and shrubs have replaced many of these bunchgrasses. Among the most aggressive invaders are cheat grass, big sagebrush, and medusahead.

Other native and introduced species invade croplands. These weeds include Russian thistle, cereal rye, lambsquarter, pigweed, cheat grass, filaree, shepherd's purse and other mustards, sour dock, chicory, fiddleneck, cheeseweed, foxtail barley, dodder, and poverty weed.

Climate

The following climate narrative was prepared by the Natural Resource Conservation Service Water and Climate Center, Portland, Oregon.

Climate tables are created from climate station Susanville Airport, California.

Thunderstorm days, relative humidity, percent sunshine, and wind information, are estimated from First Order station Reno, Nevada.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Susanville Airport in the period 1961 to 1990. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on the length of the growing season.

In winter, the average temperature is 32.3 degrees F. and the average daily minimum temperature is 22.0 degrees F. The lowest temperature on record, which occurred at Susanville Airport on February 1, 1956 is -23 degrees. In summer, the average temperature is 66.9 degrees F. and the average daily maximum temperature is 86.0 degrees F. The highest temperature, which occurred at Susanville Airport on July 19, 1931 is 106 degrees.

Growing degree days are shown in Table 1. They are equivalent to "heat units". During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F.). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is about 14.43 inches. Of this, about 0.43 inches, or 3 percent, usually falls in June

through September. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 4.70 inches at Susanville Airport on October 13, 1962. Thunderstorms occur on about 14 days each year, and most occur in July.

The average seasonal snowfall is 24.2 inches. The greatest snow depth at any one time during the period of record was 32 inches recorded on February 14, 1938. On an average, 14 days per year have at least 1 inch of snow on the ground. The heaviest 1-day snowfall on record was 18 inches recorded on March 12, 1967.

The average relative humidity in mid-afternoon is about 36 percent. Humidity is higher at night, and the average dawn is about 71 percent. The sun shines 96 percent of the time in summer and 76 percent of the time in winter. The prevailing wind is from the west northwest. Average wind speed is highest, 8.2 miles per hour, in April.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept or model of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles.

Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assign the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

This survey area was mapped at two levels of detail. At the more detailed level, map units are narrowly defined. Map unit boundaries were plotted and verified at closely spaced intervals. At the less detailed level, map units are broadly defined. Boundaries were plotted and verified at wider intervals. The detail of mapping was selected to meet the anticipated long-term use of the survey, and the map units were designed to meet the needs for that use.

The descriptions, names, and delineations of the soils in this survey area do not fully agree with those of the soils in adjacent survey areas. Differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey area.

Detailed Soil Map Units

The map units on the detailed maps in Part III of this publication represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses. More information about each map unit is given under the headings "Use and Management of the Soils" and "Soil Properties."

A map unit delineation on the detailed soil maps represents an area dominated by one or more soils or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils or miscellaneous areas. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils and miscellaneous areas are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, are mapped without including areas of other taxonomic classes. Consequently, map units are made up of the soils or miscellaneous areas for which they are named and some "included" areas that belong to other taxonomic classes.

Most included soils have properties and behavioral characteristics similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, inclusions. They may or may not be mentioned in the map unit description. Other included soils and miscellaneous areas, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, inclusions. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on

the maps. The included areas of contrasting soils or miscellaneous areas are mentioned in the map unit descriptions. A few included areas may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of included areas in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into segments that have similar use and management requirements. The delineation of such landscape segments on the map provides sufficient information for the development of resource plans, but if intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit. The principal hazards and limitations to be considered in planning for specific uses are identified in the tables and narrative in Part II.

Kinds of Map Units

Soils that have profiles that are almost alike make up a soil series. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, wetness, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Some of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Bonta coarse sandy loam, 0 to 2 percent slopes is a phase of the Bonta series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes or associations. A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Modoc-Truax complex, 0 to 2 percent slopes is an example.

An *association*, is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Petescreek-Searles association, 9 to 30 percent slopes is an example.

This survey includes *miscellaneous* areas. Such areas have little or no soil material and support little or no vegetation. Dune land is an example.

Acreage and Extent

Table 4 gives the acreage and proportionate extent of each map unit. Other tables (see "Summary of Tables") give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

Headings and Introductory Phrases

In the map unit descriptions that follow, a semi-tabular format is used. In this format the major headings are centered in the column (for example, *Composition*). They identify the information grouped directly below them. Introducing each item of information under the centered heading is a term or phrase (for example, *landform*) that identifies or describes the information. Many of the centered headings and introductory terms are self-explanatory; however, some of them need further explanation and are defined in the Glossary. Explanations of the headings and introductory phrases are provided in the following paragraphs, generally in the order in which they are used in the map unit descriptions.

Map Unit Setting is given for the entire map unit. The MLRA, or major land resource area, is listed first. The MLRA is a broad ecological area with characteristic climate, topography, vegetation, water resources, soils and land use (3). This section identifies the landscape in which the map unit is located. The landscape positions given for the entire map unit generally are broader than those given for each component.

Composition is given for the components (soils or miscellaneous areas) identified in the name of the map unit as well as for the contrasting inclusions. Contrasting inclusions are inextensive components that differ in use and management from the soils or miscellaneous areas for which the map unit is named. As was explained earlier, inclusions can either be *similar* or *contrasting*. Note that in the *Composition* section a single percentage is provided for a named soil and its similar inclusions because their use and management are similar.

Component Description lists the characteristics of the major components. These include landform, parent material, typical vegetation, a brief profile description, slope, runoff, available water capacity, drainage class, and other important properties of the soil. Also provided are important interpretive groups including land capability classification and ecological site numbers.

Ecological Site is the assigned rangeland or grazed forest land ecological site that identifies a unique potential native plant community. The plant species and production typical of each ecological site are listed by map unit in the section "Rangeland Plants and Woodland Understory." Additional information about managing these sites is provided under the heading "Rangeland" and "Forest Productivity and Management" in Part II of this publication. Further information also can be obtained from the local office of the Natural Resources Conservation Service.

Contrasting Inclusions lists additional information about the soils of minor extent in the map unit. The slope, landform, typical vegetation, and ecological site number are listed for each soil or miscellaneous area as appropriate.

101--Almanor-Whorled-Inville complex, 0 to 15 percent slopes

Map Unit Setting

MLRA: 22
Landscape: Plateaus
Elevation: 5,400 to 5,600
Precipitation: 30 to 40 inches
Air temperature: 43 to 45 degrees Fahrenheit
Frost-free period: 60 to 80 days

Composition

Almanor very gravelly sandy loam, 2 to 15 percent slopes--40 percent
Whorled very gravelly sandy loam, 2 to 15 percent slopes--35 percent
Inville very gravelly loam, 0 to 4 percent slopes--20 percent
Tahand gravelly sandy loam, 2 to 15 percent slopes--5 percent

Component Description**Almanor and similar soils**

Landform: Backslopes of plateaus

Slope: 2 to 15 percent

Parent material: Volcanic ash and colluvium derived from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--serviceberry, greenleaf manzanita, sedge, swamp carex, whitethorn ceanothus, squawcarpet, pipsissewa, snowberry

Site index: Jeffrey pine--83 at an age base of 100 years

Site index: White fir--61 at an age base of 50 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 66

Typical profile:

Layer 1--0 to 5 inches; very gravelly sandy loam

Layer 2--5 to 17 inches; very gravelly sandy loam

Layer 3--17 to 40 inches; extremely gravelly sandy loam

Layer 4--40 to 50 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 3 inches thick

Runoff: Low

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: None assigned

Component Description**Whorled and similar soils**

Landform: Backslopes of plateaus

Slope: 2 to 15 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, white fir; Forest understory--serviceberry, sedge, whitethorn ceanothus, squawcarpet, wildrye, needlegrass, snowberry

Site index: White fir--60 at an age base of 50 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 67

Typical profile:

Layer 1--0 to 5 inches; very gravelly sandy loam

Layer 2--5 to 27 inches; extremely gravelly sandy loam

Layer 3--27 to 31 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 3 inches thick

Runoff: Low

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 1.4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: None assigned

Component Description**Inville and similar soils**

Landform: Alluvial fans

Slope: 0 to 4 percent

Parent material: Alluvium derived from mixed rocks

Typical vegetation: Forest canopy--Jeffrey pine, lodgepole pine, ponderosa pine; Forest understory--whitethorn ceanothus, needlegrass, manzanita, snowbrush ceanothus, mountain brome

Site index: Jeffrey pine--90 at an age base of 100 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 60

Typical profile:

Layer 1--0 to 10 inches; very gravelly loam

Layer 2--10 to 44 inches; very gravelly loam

Layer 3--44 to 60 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: Low

Depth to restrictive feature: Bedrock (paralithic): 40 to 59 inches

Permeability class (root zone): Moderate

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Tahand and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 15 percent

Landform: Mountains

Typical vegetation: Forest canopy--Jeffrey pine, white fir

Ecological site: None assigned

Management

Major uses: Timber production

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Forest land" section

"Engineering" section

"Soil Properties" section

102--Alomax-Glean-Rock outcrop association, 9 to 50 percent slopes***Map Unit Setting***

MLRA: 21

Landscape: Mountains

Elevation: 5,800 to 7,300

Precipitation: 12 to 16 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Alomax very stony sandy loam, 30 to 50 percent slopes--40 percent

Glean gravelly sandy loam, 9 to 30 percent slopes--25 percent

Rock outcrop, 9 to 50 percent slopes--25 percent

Longcreek very stony loam, 9 to 15 percent slopes--5 percent

Devada very stony loam, 9 to 15 percent slopes--3 percent

Keddie loam, 0 to 2 percent slopes--2 percent

Component Description**Alomax very stony sandy loam and similar soils**

Landform: Backslopes of mountains, ridges

Slope: 30 to 50 percent

Parent material: Colluvium derived from basalt and andesite

Typical vegetation: Needlegrass, bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush

Typical profile:

Surface rock fragments: About 30 percent stones, 10 percent cobbles

Layer 1--0 to 3 inches; very stony sandy loam

Layer 2--3 to 15 inches; extremely stony sandy loam

Layer 3--15 to 25 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 0.8 inch

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R021XE174CA--Stony loam 12-16

Component Description**Glean and similar soils**

Landform: Backslopes of mountains

Slope: 9 to 30 percent, north aspect

Parent material: Colluvium derived from volcanic rock

Typical vegetation: Needlegrass, bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush

Typical profile:

Layer 1--0 to 14 inches; gravelly sandy loam

Layer 2--14 to 44 inches; very gravelly sandy loam

Layer 3--44 to 48 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE176CA--Loam 12-16

Component Description

Rock outcrop

Landform: Mountains
Slope: 9 to 50 percent

Component Properties and Qualities

Runoff: Very high

Interpretive Groups

Nonirrigated land capability: 8
Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Longcreek and similar soils

Composition: 0 to 5 percent
Slope: 9 to 15 percent, north aspect
Landform: Backslopes of mountains
Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, antelope bitterbrush, mountain big sagebrush, basin wildrye
Ecological site: R023XF082CA

Devada and similar soils

Composition: 0 to 3 percent
Slope: 9 to 15 percent
Landform: Plateaus
Typical vegetation: Thurber needlegrass, bluegrass, low sagebrush, bluebunch wheatgrass
Ecological site: R023XF081CA

Keddie and similar soils

Composition: 0 to 2 percent
Slope: 0 to 2 percent
Landform: Alluvial fans
Ecological site: None assigned

Management

Major uses: Livestock grazing
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" section
"Soil Properties" section

103--Anawalt-Ninemile association, 5 to 15 percent slopes

Map Unit Setting

MLRA: 21
Landscape: Mountains, plateau
Elevation: 5,600 to 6,200
Precipitation: 10 to 13 inches
Air temperature: 43 to 45 degrees Fahrenheit
Frost-free period: 60 to 80 days

Composition

Anawalt very stony loam, 5 to 15 percent slopes--50 percent
Ninemile very stony loam, 5 to 15 percent slopes--30 percent
Puls very stony loam, 5 to 9 percent slopes--5 percent
Madeline very stony loam, 5 to 15 percent slopes--5 percent
Tunnison very cobbly clay, 5 to 9 percent slopes--4 percent
Indiano very stony loam, 9 to 15 percent slopes--3 percent
Rock outcrop, 9 to 15 percent slopes--2 percent
Rubble land, 9 to 15 percent slopes--1 percent

Component Description

Anawalt and similar soils

Landform: Backslopes of plateaus, summits of plateaus
Slope: 5 to 15 percent
Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite
Typical vegetation: Low sagebrush, antelope bitterbrush, Thurber needlegrass, Sandberg bluegrass, Idaho fescue, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 15 percent stones, 20 percent cobbles
Layer 1--0 to 4 inches; very stony loam
Layer 2--4 to 16 inches; gravelly clay
Layer 3--16 to 20 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
Permeability class (root zone): Slow
Available water capacity: About 2 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE173CA—Shallow stony loam 12-16

Component Description**Ninemile and similar soils**

Landform: Backslopes of plateaus, summits of plateaus

Slope: 5 to 15 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Thurber needlegrass, bottlebrush squirreltail, antelope bitterbrush, bluegrass, low sagebrush, bluebunch wheatgrass, Idaho fescue, balsamroot

Typical profile:

Layer 1--0 to 2 inches; very stony loam

Layer 2--2 to 11 inches; clay

Layer 3--11 to 18 inches; gravelly clay

Layer 4--18 to 22 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Permeability class (root zone): Very slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE173CA—Shallow stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Puls and similar soils**

Composition: 0 to 5 percent

Slope: 5 to 9 percent

Landform: Plateaus

Typical vegetation: Bluebunch wheatgrass, low sagebrush, antelope bitterbrush, Thurber needlegrass, Idaho fescue, bluegrass

Ecological site: R021XE173CA—Shallow stony loam 12-16

Madeline and similar soils

Composition: 0 to 5 percent

Slope: 5 to 15 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, Idaho fescue, Thurber needlegrass

Ecological site: R021XE174CA—Stony loam 12-16

Tunnison and similar soils

Composition: 0 to 4 percent

Slope: 5 to 9 percent

Landform: Plateaus

Typical vegetation: Big sagebrush, beardless wildrye, bottlebrush squirreltail, Thurber needlegrass, littleleaf horsebrush, rubber rabbitbrush, western wheatgrass

Ecological site: R023XF093CA

Indiano and similar soils

Composition: 0 to 3 percent

Slope: 9 to 15 percent

Landform: Backslopes of mountains

Typical vegetation: Mountain big sagebrush, basin wildrye, bluebunch wheatgrass, Thurber needlegrass, antelope bitterbrush

Ecological site: R021XE179CA--Warm stony loam 12-16

Rock outcrop

Composition: 0 to 2 percent

Slope: 9 to 15 percent

Landform: Plateaus

Ecological site: None assigned

Rubble land

Composition: 0 to 1 percent

Slope: 9 to 15 percent

Landform: Plateaus

Ecological site: None assigned

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

104--Ardep sandy loam, 0 to 2 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Lake plain

Elevation: 4,030 to 4,120

Precipitation: 6 to 12 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Ardep sandy loam, 0 to 2 percent slopes--85 percent

Epot very fine sandy loam, 0 to 2 percent slopes--6 percent

Zorravista loamy sand, 0 to 5 percent slopes--5 percent

Ardep very fine sand, 0 to 2 percent slopes--4 percent

Component Description

Ardep and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Lacustrine deposits

Typical vegetation: Littleleaf horsebrush, needleandthread, Indian ricegrass, basin big sagebrush, basin wildrye, fourwing saltbush

Typical profile:

Layer 1--0 to 6 inches; sandy loam

Layer 2--6 to 34 inches; loam

Layer 3--34 to 60 inches; stratified sand to fine sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low

Permeability class (root zone): Moderately rapid

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3s-6

Nonirrigated land capability: 6s

Ecological site: R023XG054CA—Sandy terrace 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Epot and similar soils

Composition: 0 to 6 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Bud sagebrush, black greasewood, shadscale, bottlebrush squirreltail

Ecological site: R023XG046CA—Sodic flat 6-9

Zorravista and similar soils

Composition: 0 to 5 percent

Slope: 0 to 5 percent

Landform: Dunes

Typical vegetation: Littleleaf horsebrush, black greasewood, rubber rabbitbrush, basin wildrye, spiny hopsage, Indian ricegrass, fourwing saltbush, basin big sagebrush, needleandthread

Ecological site: R023XG049CA—Sand dunes 6-9

Ardep and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Bud sagebrush, Indian ricegrass, winterfat

Ecological site: R023XG055CA—Limy terrace 6-9

Management

Major uses: Livestock grazing, irrigated crops, alfalfa hay, pasture, and urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

105--Ardep loam, 0 to 4 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Lake plain

Elevation: 4,010 to 4,120

Precipitation: 9 to 12 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Ardep loam, 0 to 4 percent slopes--85 percent

Chappuis silt loam, 0 to 2 percent slopes--10 percent

Ardep fine sandy loam, saline-sodic, 0 to 2 percent slopes--5 percent

Component Description

Ardep and similar soils

Landform: Lake terraces

Slope: 0 to 4 percent

Parent material: Lacustrine deposits

Typical profile:

Layer 1--0 to 6 inches; loam

Layer 2--6 to 34 inches; loam

Layer 3--34 to 60 inches; stratified sand to fine sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low
 Permeability class (root zone): Moderately rapid
 Salinity: Saline within 40 inches
 Sodicty: Sodic within 40 inches
 Available water capacity: About 4 inches
 Present flooding: None
 Water table: Present
 Natural drainage class: Moderately well drained

Interpretive Groups

Irrigated land capability: 3w-2
 Nonirrigated land capability: 4w-2
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Chappuis and similar soils

Composition: 0 to 10 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Black greasewood, basin wildrye, inland saltgrass, rabbitbrush, basin big sagebrush
 Ecological site: R023XG059CA—Saline sodic loam 6-12

Ardep saline-sodic and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Bottlebrush squirreltail, black greasewood, bud sagebrush, shadscale
 Ecological site: R023XG046CA—Sodic flat 6-9

Management

Major uses: Irrigated crops, alfalfa hay and livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

106--Ardep fine sandy loam, saline-sodic, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Lake plain
 Elevation: 4,010 to 4,030
 Precipitation: 6 to 9 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Ardep fine sandy loam, 0 to 2 percent slopes--85 percent
 Zorravista loamy sand, 0 to 5 percent slopes--5 percent
 Wespac sand, 0 to 2 percent slopes--5 percent
 Epot very fine sandy loam, 0 to 2 percent slopes--5 percent

Component Description

Ardep and similar soils

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Lacustrine deposits
 Typical vegetation: Bud sagebrush, shadscale, black greasewood, bottlebrush squirreltail

Typical profile:

Layer 1--0 to 6 inches; fine sandy loam
 Layer 2--6 to 20 inches; loam
 Layer 3--20 to 60 inches; stratified sand to fine sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low
 Permeability class (root zone): Moderately rapid
 Salinity: Saline within 40 inches
 Sodicty: Sodic within 40 inches
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XG046CA—Sodic flat 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Zorravista and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 5 percent
 Landform: Dunes
 Typical vegetation: Rubber rabbitbrush, fourwing saltbush, basin big sagebrush, black greasewood, spiny hopsage, Indian ricegrass, basin wildrye, needleandthread, littleleaf horsebrush

Ecological site: R023XG049CA—Sand dunes 6-9

Wespac and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Basin wildrye, Indian ricegrass, bottlebrush squirreltail, needleandthread, basin big sagebrush

Ecological site: R023XG052CA—Sodic shallow sand 6-9

Epot and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Bottlebrush squirreltail, bud sagebrush, shadscale, black greasewood

Ecological site: R023XG046CA—Sodic flat 6-9

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

107--Ardep very fine sand, saline-sodic, 0 to 5 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Lake plain

Elevation: 4,030 to 4,060

Precipitation: 6 to 9 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Ardep very fine sand, 0 to 5 percent slopes--85 percent

Zorravista loamy sand, 0 to 5 percent slopes--5 percent

Mottsville loamy coarse sand, 0 to 2 percent slopes--5 percent

Ardep fine sandy loam, 0 to 2 percent slopes--5 percent

Component Description

Ardep and similar soils

Landform: Lake terraces

Slope: 0 to 5 percent

Parent material: Lacustrine deposits

Typical vegetation: Indian ricegrass, bud sagebrush, winterfat

Typical profile:

Layer 1--0 to 3 inches; very fine sand

Layer 2--3 to 59 inches; stratified sand to fine sandy loam

Layer 3--59 to 60 inches; stratified sand to fine sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low

Permeability class (root zone): Moderately rapid

Salinity: Saline within 40 inches

Available water capacity: About 5 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XG055CA—Limy terrace 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Zorravista and similar soils

Composition: 0 to 5 percent

Slope: 0 to 5 percent

Landform: Dunes

Typical vegetation: Black greasewood, Indian ricegrass, basin big sagebrush, spiny hopsage, basin wildrye, rubber rabbitbrush, littleleaf horsebrush, fourwing saltbush, needleandthread

Ecological site: R023XG049CA—Sand dunes 6-9

Mottsville and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Fan remnant

Typical vegetation: Mountain big sagebrush, Indian ricegrass, antelope bitterbrush, needleandthread, other shrubs, other perennial grasses, bottlebrush squirreltail, other perennial forbs

Ecological site: R021XE181CA

Ardep and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Bottlebrush squirreltail, black greasewood, shadscale, bud sagebrush

Ecological site: R023XG046CA—Sodic flat 6-9

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

108--Ardep-Wespac-Zorravista complex, 0 to 5 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Lake plain
 Elevation: 4,030 to 4,120
 Precipitation: 6 to 9 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Ardep sandy loam, 0 to 2 percent slopes--40 percent
 Wespac sand, 0 to 2 percent slopes--35 percent
 Zorravista fine sand, 2 to 5 percent slopes--15 percent
 Playas silty clay, 0 to 1 percent slopes--5 percent
 Highrock fine sandy loam, 0 to 2 percent slopes--5 percent

Component Description

Ardep and similar soils

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Lacustrine deposits
 Typical vegetation: Fourwing saltbush, basin big sagebrush, basin wildrye, Indian ricegrass, needleandthread, littleleaf horsebrush

Typical profile:

Layer 1--0 to 5 inches; sandy loam
 Layer 2--5 to 36 inches; loam
 Layer 3--36 to 60 inches; stratified sand to fine sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low
 Permeability class (root zone): Moderately rapid
 Salinity: Saline within 40 inches
 Sodicty: Sodic within 40 inches
 Available water capacity: About 7 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XG054CA—Sandy terrace 6-9

Component Description

Wespac and similar soils

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Lacustrine deposits
 Typical vegetation: Needleandthread, basin big sagebrush, basin wildrye, Indian ricegrass, bottlebrush squirreltail

Typical profile:

Layer 1--0 to 5 inches; sand
 Layer 2--5 to 12 inches; sandy clay loam
 Layer 3--12 to 60 inches; loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Permeability class (root zone): Slow
 Salinity: Saline within 40 inches
 Sodicty: Sodic within 40 inches
 Available water capacity: About 7 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XG052CA—Sodic shallow sand 6-9

Component Description

Zorravista and similar soils

Landform: Dunes
 Slope: 2 to 5 percent
 Parent material: Eolian sands
 Typical vegetation: Spiny hopsage, basin big sagebrush, fourwing saltbush, rubber rabbitbrush, littleleaf horsebrush, needleandthread, black greasewood, basin wildrye, Indian ricegrass

Typical profile:

Layer 1--0 to 4 inches; fine sand
 Layer 2--4 to 60 inches; stratified fine sand to sand to loamy fine sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Negligible

Permeability class (root zone): Very rapid
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XG049CA—Sand dunes 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Playas silty clay

Composition: 0 to 5 percent
 Slope: 0 to 1 percent
 Landform: Playas
 Ecological site: None assigned

Highrock and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Shadscale, black greasewood, bottlebrush squirreltail, basin wildrye, spiny hopsage
 Ecological site: R023XG047CA—Sodic terrace 6-9

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

109--Artray sandy loam, 2 to 9 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Fan piedmont
 Elevation: 4,200 to 5,000
 Precipitation: 12 to 16 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Artray sandy loam, 2 to 9 percent slopes--85 percent
 Aquolls gravelly sandy loam, 2 to 9 percent slopes--5 percent
 Mottsville gravelly loamy coarse sand, 2 to 9 percent slopes--5 percent
 Calpine sandy loam, 2 to 9 percent slopes--5 percent

Component Description

Artray and similar soils

Landform: Alluvial fans
 Slope: 2 to 9 percent
 Parent material: Alluvium derived from granite

Typical profile:

Layer 1--0 to 9 inches; sandy loam
 Layer 2--9 to 48 inches; coarse sandy loam
 Layer 3--48 to 60 inches; coarse sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 6 inches
 Present flooding: None
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 4w-2
 Nonirrigated land capability: 4w-2
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Aquolls and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 9 percent
 Landform: Lakeshores
 Ecological site: None assigned

Mottsville and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 9 percent
 Landform: Fan remnants
 Typical vegetation: Indian ricegrass, antelope bitterbrush, bottlebrush squirreltail, needleandthread, basin big sagebrush, desert peach, desert needlegrass
 Ecological site: R026XF051CA—Granitic fan 9-12

Calpine and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 9 percent
 Landform: Alluvial fans
 Typical vegetation: Beardless wildrye, mountain big sagebrush, Indian ricegrass, needleandthread, western needlegrass, antelope bitterbrush
 Ecological site: R021XE181CA—Granitic fan 12-16

Management

Major uses: Irrigated grass hay and pasture and livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
"Crops and Pasture" section
"Engineering" section
"Soil Properties" section

110--Badenaugh stony sandy loam, 5 to 15 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Fan piedmont
Elevation: 4,200 to 4,600
Precipitation: 10 to 12 inches
Air temperature: 48 to 50 degrees Fahrenheit
Frost-free period: 100 to 130 days

Composition

Badenaugh stony sandy loam, 5 to 15 percent slopes--80 percent
Mottsville gravelly loamy coarse sand, 5 to 15 percent slopes--6 percent
Graufels gravelly loamy coarse sand, 5 to 15 percent slopes--6 percent
Barnard stony sandy loam, 5 to 15 percent slopes--4 percent
Springmeyer sandy loam, 5 to 15 percent slopes--4 percent

Component Description

Badenaugh and similar soils

Landform: Fan remnants
Slope: 5 to 15 percent
Parent material: Alluvium derived from mixed
Typical vegetation: Bluebunch wheatgrass, big sagebrush, green ephedra, Anderson peachbrush, antelope bitterbrush, needlegrass

Typical profile:

Surface rock fragments: About 5 percent stones, 5 percent cobbles
Layer 1--0 to 13 inches; stony sandy loam
Layer 2--13 to 29 inches; very gravelly sandy clay loam
Layer 3--29 to 60 inches; stratified very cobbly sandy loam to extremely cobbly sandy clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
Permeability class (root zone): Moderately slow
Available water capacity: About 4 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R026XF052CA—Granitic upland 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Mottsville and similar soils

Composition: 0 to 6 percent
Slope: 5 to 15 percent
Landform: Fan remnants
Typical vegetation: Needleandthread, antelope bitterbrush, desert needlegrass, basin big sagebrush, bottlebrush squirreltail, Indian ricegrass, desert peach
Ecological site: R026XF051CA—Granitic fan 9-12

Graufels and similar soils

Composition: 0 to 6 percent
Slope: 5 to 15 percent, north aspect
Landform: Backslopes of mountains
Typical vegetation: Wyoming big sagebrush, green ephedra, Anderson peachbrush, antelope bitterbrush, needlegrass, bluebunch wheatgrass
Ecological site: R026XF052CA—Granitic upland 9-12

Barnard and similar soils

Composition: 0 to 4 percent
Slope: 5 to 15 percent
Landform: Fan remnants
Typical vegetation: Wyoming big sagebrush, basin wildrye, antelope bitterbrush, Thurber needlegrass, bluebunch wheatgrass
Ecological site: R023XF082CA—Stony loam 9-12

Springmeyer and similar soils

Composition: 0 to 4 percent
Slope: 5 to 15 percent
Landform: Fan remnants
Typical vegetation: Thurber needlegrass, yellow rabbitbrush, big sagebrush, other annual forbs, other shrubs, antelope bitterbrush, other perennial grasses, other perennial forbs, basin wildrye, bottlebrush squirreltail

Ecological site: R021XE186CA—Loamy terrace 12-16

Management

Major uses: Livestock grazing, urban development, and wildlife habitat

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

111--Baileycreek-Weste complex, 5 to 15 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains

Elevation: 4,600 to 4,900

Precipitation: 30 to 40 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Baileycreek very gravelly loam, 5 to 15 percent slopes--45 percent

Weste very gravelly sandy loam, 5 to 15 percent slopes--35 percent

Inville very gravelly sandy loam, 5 to 15 percent slopes--10 percent

Weste very gravelly sandy loam, 5 to 15 percent slopes, extremely stony--5 percent

Baileycreek very gravelly loam, 5 to 15 percent slopes, extremely stony--5 percent

Component Description

Baileycreek and similar soils

Landform: Mountains

Slope: 5 to 15 percent, south aspect

Parent material: Volcanic ash and colluvium derived from basalt and andesite and residuum weathered from basalt or andesite

Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--snowbrush ceanothus, manzanita, needlegrass, mountain brome, whitethorn ceanothus

Site index: Jeffrey pine--112 at an age base of 100 years

Additional forest note: Dunning site class: I

Additional forest note: Cactus site index: 78

Typical profile:

Layer 1--0 to 9 inches; very gravelly loam

Layer 2--9 to 30 inches; very gravelly loam

Layer 3--30 to 60 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Component Description

Weste and similar soils

Landform: Mountains

Slope: 5 to 15 percent, south aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, sugar pine, white fir; Forest understory--squawcarpet, whitethorn ceanothus, greenleaf manzanita

Site index: Jeffrey pine--101 at an age base of 100 years

Site index: White fir--53 at an age base of 50 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 70

Typical profile:

Layer 1--0 to 12 inches; very gravelly sandy loam

Layer 2--12 to 26 inches; very gravelly loam

Layer 3--26 to 30 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 3 inches thick

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Inville and similar soils

Composition: 0 to 10 percent

Slope: 5 to 15 percent

Landform: Alluvial fans

Typical vegetation: Forest canopy--Jeffrey pine, lodgepole pine, ponderosa pine; Forest understory--snowbrush ceanothus, whitethorn ceanothus, manzanita

Ecological site: None assigned

Weste and similar soils

Composition: 0 to 5 percent

Slope: 5 to 15 percent, south aspect

Landform: Mountains

Typical vegetation: Forest canopy--Jeffrey pine, sugar pine, white fir; Forest understory--whitethorn ceanothus, greenleaf manzanita, squawcarpet

Ecological site: None assigned

Baileycreek and similar soils

Composition: 0 to 5 percent

Slope: 5 to 15 percent, south aspect

Landform: Mountains

Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--mountain brome, snowbrush ceanothus, manzanita, needlegrass, whitethorn ceanothus

Ecological site: None assigned

Management

Major uses: Timber production and urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Forest land" section

"Engineering" section

"Soil Properties" section

112--Baileycreek-Weste complex, 15 to 30 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains

Elevation: 4,700 to 5,000

Precipitation: 30 to 40 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Baileycreek very stony loam, 15 to 30 percent slopes--50 percent

Weste very stony sandy loam, 15 to 30 percent slopes--35 percent

Swainow very gravelly sandy loam, 15 to 30 percent slopes--5 percent

Rock outcrop--5 percent

Weste very stony sandy loam, 15 to 30 percent slopes, extremely bouldery--3 percent

Baileycreek very stony loam, 15 to 30 percent slopes, extremely stony--2 percent

Component Description

Baileycreek and similar soils

Landform: Backslopes of mountains

Slope: 15 to 30 percent, south aspect

Parent material: Volcanic ash and colluvium derived from basalt and andesite and residuum weathered from basalt or andesite

Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--snowbrush ceanothus, mountain brome, whitethorn ceanothus, needlegrass, manzanita

Site index: Jeffrey pine--112 at an age base of 100 years

Additional forest note: Dunning site class: I

Additional forest note: Cactus site index: 78

Typical profile:

Surface rock fragments: About 20 percent stones, 5 percent cobbles

Layer 1--0 to 9 inches; very stony loam

Layer 2--9 to 23 inches; very gravelly loam

Layer 3--23 to 27 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Component Description

Weste and similar soils

Landform: Backslopes of mountains

Slope: 15 to 30 percent, south aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, sugar pine, white fir; Forest understory--squawcarpet, greenleaf manzanita, whitethorn ceanothus
 Site index: Jeffrey pine--101 at an age base of 100 years
 Site index: White fir--53 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 70

Typical profile:

Surface rock fragments: About 20 percent stones, 5 percent cobbles
 Layer 1--0 to 12 inches; very stony sandy loam
 Layer 2--12 to 34 inches; very gravelly loam
 Layer 3--34 to 38 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Swainow and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Plateaus
 Typical vegetation: Forest canopy--Jeffrey pine, ponderosa pine, white fir; Forest understory--mountain brome, whitethorn ceanothus, manzanita, needlegrass, snowbrush ceanothus
 Ecological site: None assigned

Rock outcrop

Composition: 0 to 5 percent
 Landform: Ridges
 Ecological site: None assigned

Weste and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 30 percent, south aspect

Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--Jeffrey pine, sugar pine, white fir; Forest understory--squawcarpet, whitethorn ceanothus, greenleaf manzanita
 Ecological site: None assigned

Baileycreek and similar soils

Composition: 0 to 2 percent
 Slope: 15 to 30 percent, south aspect
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--manzanita, snowbrush ceanothus, mountain brome, needlegrass, whitethorn ceanothus
 Ecological site: None assigned

Management

Major uses: Timber production
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

113--Baileycreek-Weste complex, 30 to 50 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Mountains
 Elevation: 4,700 to 5,400
 Precipitation: 30 to 40 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Baileycreek very gravelly loam, 30 to 50 percent slopes--50 percent
 Weste very stony sandy loam, 30 to 50 percent slopes--35 percent
 Rubble land, 30 to 50 percent slopes--5 percent
 Rock outcrop, 30 to 50 percent slopes--5 percent
 Swainow very gravelly sandy loam, 30 to 50 percent slopes--5 percent

Component Description

Baileycreek and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent
 Parent material: Volcanic ash and colluvium derived from basalt and andesite and residuum weathered from basalt or andesite

Typical vegetation: Forest canopy--Jeffrey pine, white fir;
Forest understory--mountain brome, snowbrush
ceanothus, manzanita, needlegrass, whitethorn
ceanothus

Site index: Jeffrey pine--112 at an age base of 100 years
Additional forest note: Dunning site class: I
Additional forest note: Cactus site index: 78

Typical profile:

Surface rock fragments: About 20 percent stones, 5 percent cobbles
Layer 1--0 to 10 inches; very gravelly loam
Layer 2--10 to 21 inches; very gravelly loam
Layer 3--21 to 25 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
Runoff: High
Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
Permeability class (root zone): Moderate
Available water capacity: About 2 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
Ecological site: None assigned

Component Description

Weste and similar soils

Landform: Backslopes of mountains
Slope: 30 to 50 percent, south aspect
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
Typical vegetation: Forest canopy--Jeffrey pine, sugar pine, white fir; Forest understory--greenleaf manzanita, squawcarpet, whitethorn ceanothus
Site index: Jeffrey pine--101 at an age base of 100 years
Site index: White fir--53 at an age base of 50 years
Additional forest note: Dunning site class: II
Additional forest note: Cactus site index: 70

Typical profile:

Layer 1--0 to 14 inches; very stony sandy loam
Layer 2--14 to 29 inches; very gravelly loam
Layer 3--29 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
Runoff: High
Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
Permeability class (root zone): Moderate
Available water capacity: About 3 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rubble land

Composition: 0 to 5 percent
Slope: 30 to 50 percent
Landform: Mountains
Ecological site: None assigned

Rock outcrop

Composition: 0 to 5 percent
Slope: 30 to 50 percent
Landform: Mountains
Ecological site: None assigned

Swainow and similar soils

Composition: 0 to 5 percent
Slope: 30 to 50 percent
Landform: Plateaus
Typical vegetation: Forest canopy--Jeffrey pine, ponderosa pine, white fir; Forest understory--whitethorn ceanothus, manzanita, snowbrush ceanothus, needlegrass, mountain brome
Ecological site: None assigned

Management

Major uses: Timber production
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Forest land" section
"Engineering" section
"Soil Properties" section

114--Barnard stony sandy loam, 2 to 15 percent slopes***Map Unit Setting***

MLRA: 26
 Landscape: Fan piedmont
 Elevation: 4,400 to 4,600
 Precipitation: 9 to 12 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Barnard stony sandy loam, 2 to 15 percent slopes--70 percent
 Galeppi sandy loam, 2 to 15 percent slopes--10 percent
 Hunnton cobbly sandy loam, 2 to 9 percent slopes--10 percent
 Calpine sandy loam, 2 to 15 percent slopes--10 percent

Component Description**Barnard and similar soils**

Landform: Fan remnant
 Slope: 2 to 15 percent
 Parent material: Alluvium derived from mixed rocks
 Typical vegetation: Bluebunch wheatgrass, Wyoming big sagebrush, antelope bitterbrush, Thurber needlegrass, basin wildrye

Typical profile:

Surface rock fragments: About 10 percent stones, 5 percent cobbles
 Layer 1--0 to 3 inches; stony sandy loam
 Layer 2--3 to 7 inches; sandy loam
 Layer 3--7 to 11 inches; sandy clay loam
 Layer 4--11 to 20 inches; clay
 Layer 5--20 to 26 inches; indurated
 Layer 6--26 to 60 inches; very gravelly loamy coarse sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Duripan: 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R023XF082CA—Stony loam 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Galeppi and similar soils**

Composition: 0 to 10 percent
 Slope: 2 to 15 percent
 Landform: Fan remnants
 Typical vegetation: Bluebunch wheatgrass, needlegrass, antelope bitterbrush, Anderson peachbrush, Wyoming big sagebrush, green ephedra
 Ecological site: R026XF052CA—Granitic upland 9-12

Hunnton and similar soils

Composition: 0 to 10 percent
 Slope: 2 to 9 percent
 Landform: Fan remnant
 Typical vegetation: Basin wildrye, Wyoming big sagebrush, bluebunch wheatgrass, other perennial grasses, antelope bitterbrush, other shrubs, Thurber needlegrass, other perennial forbs
 Ecological site: R023XF082CA—Stony loam 9-12

Calpine and similar soils

Composition: 0 to 10 percent
 Slope: 2 to 15 percent
 Landform: Alluvial fans
 Typical vegetation: Antelope bitterbrush, needleandthread, beardless wildrye, western needlegrass, mountain big sagebrush, Indian ricegrass
 Ecological site: R021XE181CA—Granitic fan 12-16

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

115--Beckwourth-Fordney complex, 0 to 2 percent slopes***Map Unit Setting***

MLRA: 21
 Landscape: Alluvial plain
 Elevation: 5,300 to 5,350
 Precipitation: 12 to 14 inches
 Air temperature: 44 to 46 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Beckwourth loamy sand, 0 to 2 percent slopes--50 percent
 Fordney loamy sand, 0 to 2 percent slopes--35 percent
 Incy fine sand, 0 to 2 percent slopes--8 percent
 Herjun loamy sand, 0 to 2 percent slopes--7 percent

Component Description**Beckwourth and similar soils**

Landform: Stream terraces
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 12 inches; loamy sand
 Layer 2--12 to 23 inches; sandy loam
 Layer 3--23 to 60 inches; stratified sand to loamy sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low
 Permeability class (root zone): Moderate
 Available water capacity: About 4 inches
 Present flooding: Occasional
 Water table: Present
 Natural drainage class: Somewhat poorly drained

Interpretive Groups

Irrigated land capability: 4w-1
 Nonirrigated land capability: 4w-1
 Ecological site: None assigned

Component Description**Fordney and similar soils**

Landform: Stream terraces
 Slope: 0 to 2 percent
 Parent material: Lacustrine deposits derived from tuff
 Typical vegetation: Mountain big sagebrush, beardless wildrye, Idaho fescue, antelope bitterbrush, needleandthread

Typical profile:

Layer 1--0 to 10 inches; loamy sand
 Layer 2--10 to 60 inches; loamy sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 7 inches
 Present flooding: None
 Natural drainage class: Excessively drained

Interpretive Groups

Irrigated land capability: 4e-1
 Nonirrigated land capability: 4e-1
 Ecological site: R021XE180CA—Sandy loam fan 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Incy and similar soils**

Composition: 0 to 8 percent
 Slope: 0 to 2 percent
 Landform: Dunes
 Typical vegetation: Indian ricegrass, antelope bitterbrush, arrowleaf balsamroot, western wheatgrass, sand dropseed, needleandthread, Wyoming big sagebrush
 Ecological site: R026XF022CA—Granitic fan 9-12

Herjun and similar soils

Composition: 0 to 7 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Western wheatgrass, inland saltgrass, basin wildrye, rush, bluegrass, alkaligrass, black greasewood
 Ecological site: R023XG058CA—Saline-sodic subirrigated 6-16

Management

Major uses: Livestock grazing, irrigated crops, and alfalfa hay

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

116--Bieber cobbly loam, 2 to 9 percent slopes**Map Unit Setting**

MLRA: 21
 Landscape: Fan piedmont
 Elevation: 4,500 to 5,200
 Precipitation: 12 to 16 inches
 Air temperature: 47 to 49 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Bieber cobbly loam, 2 to 9 percent slopes--80 percent
 Modoc sandy loam, 2 to 9 percent slopes--10 percent

Barnard stony sandy loam, 2 to 9 percent slopes--10 percent

Component Description

Bieber and similar soils

Landform: Fan remnants

Slope: 2 to 9 percent

Parent material: Alluvium derived from volcanic rock

Typical vegetation: Bluebunch wheatgrass, Idaho fescue, bluegrass, antelope bitterbrush, Thurber needlegrass, low sagebrush

Typical profile:

Surface rock fragments: About 15 percent cobbles

Layer 1--0 to 6 inches; cobbly loam

Layer 2--6 to 11 inches; clay loam

Layer 3--11 to 18 inches; clay

Layer 4--18 to 60 inches; indurated

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Duripan: 12 to 20 inches

Permeability class (root zone): Very slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 4e-8

Nonirrigated land capability: 6s

Ecological site: R021XE173CA—Shallow stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Modoc and similar soils

Composition: 0 to 10 percent

Slope: 2 to 9 percent

Landform: Fan remnants

Typical vegetation: Idaho fescue, basin wildrye, basin big sagebrush, bluebunch wheatgrass

Ecological site: R021XE186CA—Loamy terrace 12-16

Barnard and similar soils

Composition: 0 to 10 percent

Slope: 2 to 9 percent

Landform: Fan remnant

Typical vegetation: Basin wildrye, bluebunch wheatgrass, antelope bitterbrush, Thurber needlegrass, Wyoming big sagebrush

Ecological site: R023XF082CA—Stony loam 9-12

Management

Major uses: Livestock grazing and urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

117--Biscaro clay loam, 0 to 2 percent slopes, ponded

Map Unit Setting

MLRA: 23

Landscape: Lake plain

Elevation: 5,340 to 5,340

Precipitation: 12 to 14 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Biscaro clay loam, 0 to 2 percent slopes--85 percent

Beckwourth loamy sand, 0 to 2 percent slopes--8 percent

Pit clay, 0 to 2 percent slopes--7 percent

Component Description

Biscaro and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Alluvium derived from sandstone and siltstone

Typical profile:

Layer 1--0 to 10 inches; clay loam

Layer 2--10 to 21 inches; silty clay

Layer 3--21 to 38 inches; loam

Layer 4--38 to 60 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 24 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 6 inches

Present flooding: None

Present ponding: Frequent

Water table: Present

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 4s-3
 Nonirrigated land capability: 4s-3
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Beckwourth and similar soils**

Composition: 0 to 8 percent
 Slope: 0 to 2 percent
 Landform: Stream terraces
 Ecological site: None assigned

Pit and similar soils

Composition: 0 to 7 percent
 Slope: 0 to 2 percent
 Landform: Flood plains
 Typical vegetation: Nevada bluegrass, beardless wildrye, silver sagebrush, western wheatgrass
 Ecological site: R023XF092CA—Clay floodplain 9-16

Management

Major uses: Irrigated grass hay and pasture
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

118--Biscaro-Calnat complex, 0 to 2 percent slopes***Map Unit Setting***

MLRA: 23
 Landscape: Lake plain
 Elevation: 5,330 to 5,350
 Precipitation: 12 to 14 inches
 Air temperature: 44 to 46 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Biscaro sandy loam, 0 to 2 percent slopes--50 percent
 Calnat loamy sand, 0 to 2 percent slopes--35 percent
 Beckwourth loamy sand, 0 to 2 percent slopes--5 percent
 Truax sandy loam, 0 to 2 percent slopes--6 percent
 Corral sandy loam, 0 to 2 percent slopes--2 percent
 Modoc sandy loam, 0 to 2 percent slopes--2 percent

Component Description**Biscaro and similar soils**

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from sandstone and siltstone

Typical profile:

Layer 1--0 to 10 inches; sandy loam
 Layer 2--10 to 21 inches; silty clay
 Layer 3--21 to 38 inches; loam
 Layer 4--38 to 60 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 24 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: Frequent
 Water table: Present
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 4s-3
 Nonirrigated land capability: 4s-3
 Ecological site: None assigned

Component Description**Calnat and similar soils**

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Lacustrine deposits

Typical profile:

Layer 1--0 to 8 inches; loamy sand
 Layer 2--8 to 25 inches; sandy clay loam
 Layer 3--25 to 38 inches; loam
 Layer 4--38 to 42 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Moderately slow
 Salinity: Saline within 40 inches
 Sodicity: Sodic within 40 inches

Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 4s-3
 Nonirrigated land capability: 4s-3
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Truax and similar soils

Composition: 0 to 6 percent
 Slope: 0 to 2 percent
 Landform: Fan remnants
 Typical vegetation: Basin big sagebrush, basin wildrye, antelope bitterbrush, bottlebrush squirreltail, needleandthread, Thurber needlegrass
 Ecological site: R021XE186CA—Loamy terrace 12-16

Beckwourth and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Stream terraces
 Ecological site: None assigned

Corral and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 2 percent
 Landform: Rock pediment
 Typical vegetation: Big sagebrush, basin wildrye, needleandthread
 Ecological site: R021XE195CA—Sandy loam terrace 12-16

Modoc drained and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 2 percent
 Landform: Fan remnants
 Typical vegetation: Bluebunch wheatgrass, basin big sagebrush, basin wildrye, Idaho fescue
 Ecological site: R021XE186CA—Loamy terrace 12-16

Management

Major uses: Irrigated grass hay and pasture
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

119--Biscaro-Playas complex, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Lake plain
 Elevation: 5,250 to 5,350
 Precipitation: 12 to 14 inches
 Air temperature: 44 to 46 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Biscaro silt loam, 0 to 2 percent slopes--65 percent
 Playas silty clay, 0 to 1 percent slopes--20 percent
 Pit clay, 0 to 2 percent slopes--4 percent
 Cleghorn sandy loam, 0 to 2 percent slopes--4 percent
 Biscaro sandy loam, 0 to 2 percent slopes--3 percent
 Ravendale silty clay, 0 to 2 percent slopes--4 percent

Component Description

Biscaro and similar soils

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from sandstone and siltstone
 Typical vegetation: Black greasewood, Nevada bluegrass, spiny hopsage, basin wildrye, rubber rabbitbrush, big sagebrush

Typical profile:

Layer 1--0 to 2 inches; silt loam
 Layer 2--2 to 27 inches; silty clay
 Layer 3--27 to 37 inches; extremely gravelly loam
 Layer 4--37 to 60 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 24 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: Frequent
 Water table: Present
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 4s-3
 Ecological site: R021XE192CA—Silty sodic flat 12-16

Component Description

Playas silty clay

Landform: Playas

Slope: 0 to 1 percent

Component Properties and Qualities

Runoff: Negligible
Salinity: Saline within 40 inches
Present ponding: Frequent

Interpretive Groups

Nonirrigated land capability: 8
Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Pit and similar soils

Composition: 0 to 4 percent
Slope: 0 to 2 percent
Landform: Flood plains
Typical vegetation: Silver sagebrush, Nevada bluegrass, beardless wildrye, western wheatgrass
Ecological site: R023XF092CA—Clay floodplain 9-16

Cleghorn and similar soils

Composition: 0 to 4 percent
Slope: 0 to 2 percent
Landform: Fan remnant
Typical vegetation: Basin wildrye, Wyoming big sagebrush, needleandthread, Thurber needlegrass
Ecological site: R023XF091CA—Loamy upland 9-12

Ravendale ponded and similar soils

Composition: 0 to 4 percent
Slope: 0 to 2 percent
Landform: Basin floors
Ecological site: None assigned

Biscaro and similar soils

Composition: 0 to 3 percent
Slope: 0 to 2 percent
Landform: Lake terraces
Ecological site: None assigned

Management

Major uses: Livestock grazing
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" section
"Soil Properties" section

120--Blickenstaff sandy loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Alluvial plain
Elevation: 4,000 to 4,100
Precipitation: 9 to 12 inches
Air temperature: 50 to 52 degrees Fahrenheit
Frost-free period: 100 to 130 days

Composition

Blickenstaff sandy loam, 0 to 2 percent slopes--85 percent
Honeylake clay loam, 0 to 1 percent slopes--8 percent
Truckee loam, 0 to 2 percent slopes--7 percent

Component Description

Blickenstaff and similar soils

Landform: Stream terraces
Slope: 0 to 2 percent
Parent material: Alluvium derived from granite

Typical profile:

Layer 1--0 to 15 inches; sandy loam
Layer 2--15 to 34 inches; gravelly sandy loam
Layer 3--34 to 60 inches; gravelly sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low
Permeability class (root zone): Moderately rapid
Available water capacity: About 6 inches
Present flooding: None
Water table: Present
Natural drainage class: Moderately well drained

Interpretive Groups

Irrigated land capability: 2e-1
Nonirrigated land capability: 6e
Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Honeylake and similar soils

Composition: 0 to 8 percent
Slope: 0 to 1 percent
Landform: Lake terraces
Typical vegetation: Basin wildrye, inland saltgrass, western wheatgrass, rush, bluegrass, alkaligrass, black greasewood

Ecological site: R023XG058CA—Saline sodic subirrigated 6-16

Truckee and similar soils

Composition: 0 to 7 percent
Slope: 0 to 2 percent
Landform: Flood plains
Ecological site: None assigned

Management

Major uses: Irrigated crops, alfalfa hay and livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
"Crops and Pasture" section
"Engineering" section
"Soil Properties" section

121--Honeylake clay loam, 0 to 1 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Lake plain
Elevation: 4,000 to 4,300
Precipitation: 9 to 12 inches
Air temperature: 50 to 52 degrees Fahrenheit
Frost-free period: 100 to 130 days

Composition

Honeylake clay loam, 0 to 1 percent slopes--95 percent
Blickenstaff sandy loam, 0 to 2 percent slopes--5 percent

Component Description

Honeylake and similar soils

Landform: Lake terraces
Slope: 0 to 1 percent
Parent material: Alluvium derived from granite over lacustrine deposits
Typical vegetation: Black greasewood, alkaligrass, bluegrass, rush, basin wildrye, western wheatgrass, inland saltgrass

Typical profile:

Layer 1--0 to 16 inches; clay loam
Layer 2--16 to 26 inches; sandy loam
Layer 3--26 to 41 inches; sandy loam
Layer 4--41 to 56 inches; coarse sandy loam
Layer 5--56 to 67 inches; stratified coarse sandy loam to loamy sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
Permeability class (root zone): Moderately slow
Salinity: Saline within 40 inches
Sodicity: Sodic within 40 inches
Available water capacity: About 6 inches
Present flooding: Rare
Water table: Present
Natural drainage class: Moderately well drained

Interpretive Groups

Irrigated land capability: 4w-6
Nonirrigated land capability: 7w
Ecological site: R023XG058CA—Saline-sodic subirrigated 6-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Blickenstaff and similar soils

Composition: 0 to 5 percent
Slope: 0 to 2 percent
Landform: Stream terraces
Ecological site: None assigned

Management

Major uses: Livestock grazing and irrigated grass hay and pasture

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
"Crops and Pasture" section
"Engineering" section
"Soil Properties" section

122--Bobert sandy loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Alluvial plain
Elevation: 4,000 to 4,100
Precipitation: 9 to 12 inches
Air temperature: 50 to 52 degrees Fahrenheit
Frost-free period: 100 to 130 days

Composition

Bobert sandy loam, 0 to 2 percent slopes--90 percent
Bobert loamy sand, 0 to 2 percent slopes--5 percent

Standish fine sandy loam, 0 to 2 percent slopes--5 percent

Component Description

Bobert and similar soils

Landform: Stream terraces

Slope: 0 to 2 percent

Parent material: Alluvium derived from mixed rocks

Typical vegetation: Basin big sagebrush, rabbitbrush,
inland saltgrass, basin wildrye, black greasewood

Typical profile:

Layer 1--0 to 6 inches; sandy loam

Layer 2--6 to 14 inches; sandy clay loam

Layer 3--14 to 26 inches; loam

Layer 4--26 to 60 inches; sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 6 inches

Present flooding: None

Water table: Present

Natural drainage class: Moderately well drained

Interpretive Groups

Irrigated land capability: 4s-6

Nonirrigated land capability: 7s

Ecological site: R023XG059CA—Saline-sodic loam 6-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Bobert and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Western wheatgrass, inland saltgrass,
seepweed, spiny hopsage, black greasewood,
bottlebrush squirreltail

Ecological site: R023XG050CA—Saline-sodic flat 6-9

Standish and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Rabbitbrush, inland saltgrass, basin
wildrye, black greasewood, basin big sagebrush

Ecological site: R023XG059CA—Saline-sodic loam 6-12

Management

Major uses: Irrigated grass hay and pasture and livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

123--Bobert sandy loam, lake terrace, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Lake plain

Elevation: 4,000 to 4,010

Precipitation: 9 to 12 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Bobert sandy loam, 0 to 2 percent slopes--85 percent

Calneva silt loam, 0 to 1 percent slopes--5 percent

Honlak loam, 0 to 2 percent slopes--5 percent

Mazuma fine sandy loam, 0 to 2 percent slopes--5 percent

Component Description

Bobert and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Alluvium derived from mixed rocks

Typical vegetation: Seepweed, bottlebrush squirreltail,
western wheatgrass, inland saltgrass, spiny hopsage,
black greasewood

Typical profile:

Layer 1--0 to 4 inches; sandy loam

Layer 2--4 to 20 inches; sandy clay loam

Layer 3--20 to 28 inches; loam

Layer 4--28 to 60 inches; loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 7 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 4s-6

Nonirrigated land capability: 7s

Ecological site: R023XG050CA—Saline-sodic flat 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Calneva and similar soils

Composition: 0 to 5 percent

Slope: 0 to 1 percent

Landform: Basin floors

Typical vegetation: Bud sagebrush, shadscale, black greasewood, bottlebrush squirreltail

Ecological site: R023XG046CA

Honlak and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Fan remnants

Typical vegetation: Bluegrass, inland saltgrass, western wheatgrass, basin wildrye, beardless wildrye, alkaligrass, black greasewood, rush

Ecological site: R023XG058CA—Saline-sodic subirrigated 6-16

Mazuma and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Black greasewood, basin wildrye, shadscale, seepweed, bottlebrush squirreltail

Ecological site: R023XG050CA--Saline-sodic flat 6-9

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

124--Bonta coarse sandy loam, 9 to 15 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains

Elevation: 4,100 to 4,300

Precipitation: 16 to 20 inches

Air temperature: 49 to 51 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Bonta coarse sandy loam, 9 to 15 percent slopes--80 percent

Janile bouldery loamy coarse sand, 9 to 15 percent slopes--10 percent

Lasco gravelly sandy loam, 9 to 15 percent slopes--10 percent

Component Description

Bonta and similar soils

Landform: Toeslopes of mountains

Slope: 9 to 15 percent

Parent material: Colluvium derived from granite and residuum weathered from granite

Typical vegetation: Forest canopy--California black oak, Douglas fir, Jeffrey pine, white fir; Forest understory--whitethorn ceanothus, western needlegrass, big sagebrush, greenleaf manzanita, other perennial grasses, antelope bitterbrush

Site index: Jeffrey pine--64 at an age base of 100 years

Additional forest note: Dunning site class: IV

Additional forest note: Cactus site index: 43

Typical profile:

Layer 1--0 to 12 inches; coarse sandy loam

Layer 2--12 to 36 inches; coarse sandy loam

Layer 3--36 to 40 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 2 inches thick

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Janile and similar soils

Composition: 0 to 10 percent

Slope: 9 to 15 percent, south aspect

Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--Jeffrey pine,
 Forest understory--Idaho fescue, Columbia
 needlegrass, bottlebrush squirreltail, antelope
 bitterbrush, mountain big sagebrush
 Ecological site: None assigned

Lasco and similar soils

Composition: 0 to 10 percent
 Slope: 9 to 15 percent
 Landform: Mountains
 Typical vegetation: Forest canopy--Douglas fir, Jeffrey
 pine, incense cedar, sugar pine, white fir; Forest
 understory--big sagebrush, antelope bitterbrush, Idaho
 fescue
 Ecological site: None assigned

Management

Major uses: Timber production, urban development
 For information about managing this map unit, see the
 following sections and associated tables in Part II of
 this publication:
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

125--Bonta coarse sandy loam, 15 to 30 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Hills
 Elevation: 4,200 to 4,500
 Precipitation: 16 to 20 inches
 Air temperature: 49 to 51 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Bonta coarse sandy loam, 15 to 30 percent slopes--80 percent
 Lasco gravelly sandy loam, 15 to 30 percent slopes--10 percent
 Rock outcrop, 15 to 30 percent slopes--5 percent
 Bonta coarse sandy loam, 15 to 30 percent slopes, very bouldery--5 percent

Component Description

Bonta and similar soils

Landform: Toeslopes of hills
 Slope: 15 to 30 percent
 Parent material: Colluvium derived from granite and
 residuum weathered from granite
 Typical vegetation: Forest canopy--California black oak,
 Douglas fir, Jeffrey pine, white fir; Forest understory--

other perennial grasses, antelope bitterbrush,
 whitethorn ceanothus, big sagebrush, greenleaf
 manzanita, western needlegrass

Site index: Jeffrey pine--64 at an age base of 100 years

Additional forest note: Dunning site class: IV

Additional forest note: Cactus site index: 43

Typical profile:

Layer 1--0 to 12 inches; coarse sandy loam
 Layer 2--12 to 36 inches; coarse sandy loam
 Layer 3--36 to 40 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 2 inches thick
 Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Lasco and similar soils

Composition: 0 to 10 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--big sagebrush, antelope bitterbrush, Idaho fescue
 Ecological site: None assigned

Rock outcrop

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Hills
 Ecological site: None assigned

Bonta and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 30 percent

Landform: Toeslopes of hills

Typical vegetation: Forest canopy--California black oak, Douglas fir, Jeffrey pine, white fir; Forest understory--other perennial grasses, greenleaf manzanita, big sagebrush, whitethorn ceanothus, antelope bitterbrush, western needlegrass

Ecological site: None assigned

Management

Major uses: Timber production, urban development and livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

126--Bonta gravelly sandy loam, 30 to 50 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains

Elevation: 4,800 to 5,600

Precipitation: 25 to 30 inches

Air temperature: 45 to 47 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Bonta gravelly sandy loam, 30 to 50 percent slopes--75 percent

Bonta gravelly sandy loam, 30 to 50 percent slopes, very bouldery--5 percent

Lasco gravelly sandy loam, 30 to 50 percent slopes--5 percent

Waterman gravelly loamy coarse sand, 30 to 50 percent slopes, very bouldery--5 percent

Gerle sandy loam, 30 to 50 percent slopes--5 percent

Chimney gravelly loamy coarse sand, 30 to 50 percent slopes--5 percent

Component Description

Bonta and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent, north aspect

Parent material: Colluvium derived from granite and residuum weathered from granite

Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, ponderosa pine, white fir; Forest understory--mountain big sagebrush, needlegrass, mountain brome, whitethorn ceanothus, snowbrush ceanothus, antelope bitterbrush

Site index: Jeffrey pine--88 at an age base of 100 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 62

Typical profile:

Layer 1--0 to 12 inches; gravelly sandy loam

Layer 2--12 to 34 inches; gravelly sandy loam

Layer 3--34 to 38 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Bonta and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, ponderosa pine, white fir; Forest understory--snowbrush ceanothus, whitethorn ceanothus, mountain brome, mountain big sagebrush, needlegrass, antelope bitterbrush

Ecological site: None assigned

Lasco and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--whitethorn ceanothus, manzanita, snowbrush ceanothus, needlegrass, mountain brome

Ecological site: None assigned

Waterman and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Ridges

Typical vegetation: Forest canopy--Jeffrey pine,
Forest understory--squawcarpet, Columbia
needlegrass, bottlebrush squirreltail, mountain big
sagebrush, antelope bitterbrush, Idaho fescue
Ecological site: None assigned

Gerle and similar soils

Composition: 0 to 5 percent
Slope: 30 to 50 percent, north aspect
Landform: Backslopes of moraines
Typical vegetation: Forest canopy--white fir,
Forest understory--huckleberry oak, whitethorn
ceanothus, currant, chinkapin, western brackenfern
Ecological site: None assigned

Chimney and similar soils

Composition: 0 to 5 percent
Slope: 30 to 50 percent
Landform: Toeslopes of mountains
Typical vegetation: Forest canopy--California black oak,
Jeffrey pine; Forest understory--antelope bitterbrush,
Columbia needlegrass, bottlebrush squirreltail, Idaho
fescue, squawcarpet, mountain big sagebrush
Ecological site: None assigned

Management

Major uses: Timber production and livestock grazing
For information about managing this map unit, see the
following sections and associated tables in Part II of
this publication:
"Forest land" section
"Engineering" section
"Soil Properties" section

127--Boulder Lake silty clay, 0 to 1 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Bolson
Elevation: 5,600 to 5,650
Precipitation: 10 to 12 inches
Air temperature: 43 to 45 degrees Fahrenheit
Frost-free period: 60 to 80 days

Composition

Boulder Lake silty clay, 0 to 2 percent slopes--90 percent
Truax sandy loam, 0 to 2 percent slopes--3 percent
Lakeview loam, 0 to 2 percent slopes--3 percent
Boulder Lake silty clay, 0 to 2 percent slopes--4 percent

Component Description

Boulder Lake and similar soils

Landform: Basin floors

Slope: 0 to 2 percent

Parent material: Lacustrine deposits

Typical vegetation: Sedge, western wheatgrass, silver
sagebrush, bottlebrush squirreltail, beardless wildrye,
rush, mat muhly, Nevada bluegrass

Typical profile:

Layer 1--0 to 12 inches; silty clay
Layer 2--12 to 43 inches; clay
Layer 3--43 to 60 inches; silty clay loam

See "Chemical Properties of Soils" table and the "Physical
Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Negligible
Permeability class (root zone): Very slow
Available water capacity: About 10 inches
Present flooding: None
Present ponding: Frequent
Water table: Present
Natural drainage class: Very poorly drained

Interpretive Groups

Nonirrigated land capability: 5w
Ecological site: R023XF092CA—Clay floodplain 9-16

Typical soil descriptions including ranges in characteristics
are in the "Classification of the Soils" section.

Contrasting Inclusions

Boulder Lake and similar soils

Composition: 0 to 4 percent
Slope: 0 to 2 percent
Landform: Basin floors
Typical vegetation: Silver sagebrush, lesser spikemoss,
Nevada bluegrass, western wheatgrass, mat muhly,
beardless wildrye, rush, clubmoss, lake quillwort
Ecological site: R021XE194CA—Wet clay basin 12-16

Truax and similar soils

Composition: 0 to 3 percent
Slope: 0 to 2 percent
Landform: Fan remnants
Typical vegetation: Basin big sagebrush, antelope
bitterbrush, Thurber needlegrass, needleandthread,
bottlebrush squirreltail, basin wildrye
Ecological site: R021XE186CA—Loamy terrace 12-16

Lakeview and similar soils

Composition: 0 to 3 percent
Slope: 0 to 2 percent
Landform: Flood plains
Ecological site: None assigned

Management

Major uses: Livestock grazing and wildlife habitat
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

128--Boulder Lake silty clay, wet, 0 to 1 percent slopes**Map Unit Setting**

MLRA: 21
 Landscape: Bolson
 Elevation: 5,600 to 5,650
 Precipitation: 10 to 12 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Boulder Lake silty clay, wet 0 to 1 percent slopes--95 percent
 Boulder Lake silty clay, 0 to 1 percent slopes--5 percent

Component Description**Boulder Lake and similar soils**

Landform: Basin floors
 Slope: 0 to 1 percent
 Parent material: Lacustrine deposits
 Typical vegetation: Lake quillwort, western wheatgrass, silver sagebrush, beardless wildrye, Nevada bluegrass, rush, clubmoss, mat muhly, lesser spikemoss

Typical profile:

Layer 1--0 to 12 inches; silty clay
 Layer 2--12 to 43 inches; clay
 Layer 3--43 to 60 inches; silty clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Permeability class (root zone): Very slow
 Available water capacity: About 10 inches
 Present flooding: None
 Present ponding: Frequent
 Water table: Present
 Natural drainage class: Very poorly drained

Interpretive Groups

Nonirrigated land capability: 6w
 Ecological site: R021XE194CA—Wet clay basin 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Boulder Lake and similar soils**

Composition: 0 to 5 percent
 Slope: 0 to 1 percent
 Landform: Basin floors
 Typical vegetation: Western wheatgrass, beardless wildrye, bottlebrush squirreltail, Nevada bluegrass, mat muhly, silver sagebrush, sedge, rush
 Ecological site: R023XF092CA—Clay floodplain 9-16

Management

Major uses: Livestock grazing and wildlife habitat
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

129--Brubeck very cobbly clay, 2 to 5 percent slopes**Map Unit Setting**

MLRA: 23
 Landscape: Plateau
 Elevation: 4,500 to 4,800
 Precipitation: 9 to 12 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Brubeck very cobbly clay, 2 to 5 percent slopes--85 percent
 Rock outcrop, 5 to 9 percent slopes--5 percent
 Loomis very cobbly loam, 5 to 9 percent slopes--5 percent
 Horsecamp very cobbly silty clay, 2 to 5 percent slopes--5 percent

Component Description**Brubeck and similar soils**

Landform: Plateaus
 Slope: 2 to 5 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Littleleaf horsebrush, western wheatgrass, big sagebrush, rubber rabbitbrush, beardless wildrye, bottlebrush squirreltail, Thurber needlegrass

Typical profile:

Surface rock fragments: About 10 percent stones, 30 percent cobbles

Layer 1--0 to 2 inches; very cobbly clay
 Layer 2--2 to 32 inches; clay
 Layer 3--32 to 42 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF084CA—Clay upland 9-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 5 percent
 Slope: 5 to 9 percent
 Landform: Escarpments
 Ecological site: None assigned

Loomis and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 9 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Thurber needlegrass, bottlebrush squirreltail, Sandberg bluegrass, black sagebrush, bluebunch wheatgrass
 Ecological site: R023XF087CA

Horsecamp and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 5 percent
 Landform: Plateaus
 Typical vegetation: Beardless wildrye, rubber rabbitbrush, big sagebrush, western wheatgrass, littleleaf horsebrush, Thurber needlegrass, bottlebrush squirreltail
 Ecological site: R023XF084CA—Clay upland 9-16

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section

"Engineering" section
 "Soil Properties" section

130--Brubeck very cobbly clay, 5 to 30 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 4,500 to 5,000
 Precipitation: 9 to 12 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Brubeck very cobbly clay, 5 to 30 percent slopes--80 percent
 Shinnpeak very cobbly sandy loam, 5 to 15 percent slopes--4 percent
 Horsecamp very cobbly silty clay, 5 to 9 percent slopes--4 percent
 Hunton cobbly sandy loam, 5 to 9 percent slopes--4 percent
 Cleghorn sandy loam, 2 to 5 percent slopes--4 percent
 Rock outcrop, 15 to 30 percent slopes--4 percent

Component Description

Brubeck and similar soils

Landform: Plateaus
 Slope: 5 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Beardless wildrye, western wheatgrass, big sagebrush, rubber rabbitbrush, littleleaf horsebrush, bottlebrush squirreltail, Thurber needlegrass

Typical profile:

Surface rock fragments: About 30 percent cobbles, 10 percent stones
 Layer 1--0 to 2 inches; very cobbly clay
 Layer 2--2 to 32 inches; clay
 Layer 3--32 to 42 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 5 inches
 Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XF084CA—Clay upland 9-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Shinnpeak and similar soils

Composition: 0 to 4 percent

Slope: 5 to 15 percent

Landform: Fan remnants

Typical vegetation: Black sagebrush, other perennial forbs, other perennial grasses, bottlebrush squirreltail, other shrubs, Thurber needlegrass, Sandberg bluegrass, bluebunch wheatgrass

Ecological site: R023XF087CA—Very shallow stony loam 9-12

Horsecamp and similar soils

Composition: 0 to 4 percent

Slope: 5 to 9 percent

Landform: Plateaus

Typical vegetation: Thurber needlegrass, littleleaf horsebrush, western wheatgrass, big sagebrush, rubber rabbitbrush, beardless wildrye, bottlebrush squirreltail

Ecological site: R023XF084CA—Clay upland 9-16

Hunnton and similar soils

Composition: 0 to 4 percent

Slope: 5 to 9 percent

Landform: Fan remnant

Typical vegetation: Bluebunch wheatgrass, antelope bitterbrush, Thurber needlegrass, other shrubs, Wyoming big sagebrush, basin wildrye, other perennial forbs, other perennial grasses

Ecological site: R023XF082CA—Stony loam 9-12

Cleghorn and similar soils

Composition: 0 to 4 percent

Slope: 2 to 5 percent

Landform: Fan remnant

Typical vegetation: Thurber needlegrass, needleandthread, basin wildrye, Wyoming big sagebrush

Ecological site: R023XF091CA

Rock outcrop

Composition: 0 to 4 percent

Slope: 15 to 30 percent

Landform: Plateaus

Ecological site: None assigned

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

131--Brubeck-Diaz association, 2 to 30 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 4,500 to 5,500

Precipitation: 9 to 12 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Brubeck very cobbly clay, 2 to 30 percent slopes--50 percent

Diaz very cobbly silt loam, 2 to 30 percent slopes--35 percent

Loomis very cobbly loam, 5 to 30 percent slopes--5 percent

Corral loam, 2 to 30 percent slopes--5 percent

Verdico cobbly sandy loam, 2 to 30 percent slopes--3 percent

Devada very cobbly loam, 15 to 30 percent slopes--2 percent

Component Description

Brubeck and similar soils

Landform: Toeslopes of plateaus

Slope: 2 to 30 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Rubber rabbitbrush, western wheatgrass, big sagebrush, beardless wildrye, bottlebrush squirreltail, Thurber needlegrass, littleleaf horsebrush

Typical profile:

Surface rock fragments: About 30 percent cobbles, 10 percent stones

Layer 1--0 to 2 inches; very cobbly clay

Layer 2--2 to 32 inches; clay

Layer 3--32 to 42 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF084CA—Clay upland 9-16

Component Description**Diaz and similar soils**

Landform: Plateaus
 Slope: 2 to 30 percent
 Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite
 Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, big sagebrush, basin wildrye, antelope bitterbrush

Typical profile:

Surface rock fragments: About 20 percent cobbles
 Layer 1--0 to 3 inches; very cobbly silt loam
 Layer 2--3 to 7 inches; silty clay loam
 Layer 3--7 to 25 inches; silty clay
 Layer 4--25 to 32 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF082CA—Stony loam 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Loomis and similar soils**

Composition: 0 to 5 percent
 Slope: 5 to 30 percent
 Landform: Backslopes of plateaus

Typical vegetation: Bluebunch wheatgrass, black sagebrush, Thurber needlegrass, bottlebrush squirreltail, Sandberg bluegrass
 Ecological site: R023XF087CA—Very shallow stony loam 9-12

Corral and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 30 percent
 Landform: Escarpments
 Typical vegetation: Needleandthread, basin wildrye, Thurber needlegrass, big sagebrush
 Ecological site: R023XF091CA—Loamy upland 9-12

Verdico and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 30 percent
 Landform: Backslopes of rock pediments
 Typical vegetation: Spiny hopsage, Webber needlegrass, Indian ricegrass, Thurber needlegrass, Lahontan sagebrush
 Ecological site: None assigned

Devada and similar soils

Composition: 0 to 2 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of mountains
 Typical vegetation: Bluebunch wheatgrass, low sagebrush, Thurber needlegrass, bluegrass
 Ecological site: R023XF081CA—Shallow stony loam 9-12

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

132--Brubeck-Loomis association, 2 to 30 percent slopes**Map Unit Setting**

MLRA: 23
 Landscape: Plateau
 Elevation: 4,600 to 5,200
 Precipitation: 9 to 12 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Brubeck very cobbly clay, 2 to 9 percent slopes--50 percent

Loomis very cobbly loam, 5 to 30 percent slopes--35 percent
 Tunnison very cobbly clay, 2 to 9 percent slopes--5 percent
 Fulstone very cobbly loam, 2 to 9 percent slopes--5 percent
 Cochran gravelly loam, 2 to 9 percent slopes--5 percent

Component Description

Brubeck and similar soils

Landform: Plateaus
 Slope: 2 to 9 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Beardless wildrye, western wheatgrass, littleleaf horsebrush, Thurber needlegrass, bottlebrush squirreltail, rubber rabbitbrush, big sagebrush

Typical profile:

Surface rock fragments: About 30 percent cobbles, 10 percent stones
 Layer 1--0 to 2 inches; very cobbly clay
 Layer 2--2 to 32 inches; clay
 Layer 3--32 to 42 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R023XF084CA—Clay upland 9-16

Component Description

Loomis and similar soils

Landform: Backslopes of plateaus
 Slope: 5 to 30 percent
 Parent material: Colluvium derived from basalt over residuum weathered from basalt
 Typical vegetation: Bluebunch wheatgrass, black sagebrush, Thurber needlegrass, Sandberg bluegrass, bottlebrush squirreltail

Typical profile:

Surface rock fragments: About 25 percent cobbles, 10 percent stones

Layer 1--0 to 2 inches; very cobbly loam
 Layer 2--2 to 6 inches; very gravelly clay loam
 Layer 3--6 to 11 inches; very gravelly clay
 Layer 4--11 to 15 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 8 to 14 inches
 Permeability class (root zone): Slow
 Available water capacity: About 1.1 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF087CA—Very shallow stony loam 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Tunnison and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 9 percent
 Landform: Plateaus
 Typical vegetation: Western wheatgrass, big sagebrush, rubber rabbitbrush, beardless wildrye, bottlebrush squirreltail, Thurber needlegrass, littleleaf horsebrush
 Ecological site: R023XF093CA—Shallow clay 9-16

Fulstone and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 9 percent
 Landform: Fan remnant
 Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, Lahontan sagebrush
 Ecological site: R023XF083CA—Shallow stony clay loam 9-12

Cochran and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 9 percent
 Landform: Lake terraces
 Typical vegetation: Needlegrass, mountain big sagebrush, Idaho fescue, bluegrass, antelope bitterbrush
 Ecological site: R021XE044CA—Cool loam 12-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
"Engineering" section
"Soil Properties" section

133--Buckbay-Orhood-Devada association, 2 to 30 percent slopes

Map Unit Setting

MLRA: 21
Landscape: Mountains
Elevation: 5,400 to 6,200
Precipitation: 12 to 14 inches
Air temperature: 45 to 46 degrees Fahrenheit
Frost-free period: 60 to 80 days

Composition

Buckbay gravelly loam, 9 to 30 percent slopes--35 percent
Orhood very stony loam, 9 to 30 percent slopes--25 percent
Devada very cobbly loam, 2 to 9 percent slopes--20 percent
Fredonyer very stony loam, 9 to 30 percent slopes--4 percent
Longcreek very stony loam, 9 to 30 percent slopes--4 percent
Ninemile very stony loam, 5 to 15 percent slopes--4 percent
Petescreek gravelly loam, 9 to 30 percent slopes--4 percent
Puls very cobbly loam, 2 to 9 percent slopes--4 percent

Component Description

Buckbay and similar soils

Landform: Backslopes of mountains
Slope: 9 to 30 percent
Parent material: Colluvium derived from andesite and residuum weathered from andesite
Typical vegetation: Forest canopy--western juniper; Forest understory--antelope bitterbrush, Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, needlegrass
Site index: Western juniper--24 at an age base of 50 years

Typical profile:

Surface rock fragments: About 2 percent cobbles, 1 percent stones, 10 percent gravel
Layer 1--0 to 12 inches; gravelly loam
Layer 2--12 to 22 inches; gravelly loam
Layer 3--22 to 29 inches; cobbly loam
Layer 4--29 to 39 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
Permeability class (root zone): Moderate
Available water capacity: About 3 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
Ecological site: R021XE176CA--Loam 12-16

Component Description

Orhood and similar soils

Landform: Backslopes of mountains
Slope: 9 to 30 percent, north aspect
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
Typical vegetation: Forest canopy--western juniper; Forest understory--arrowleaf balsamroot, mountain big sagebrush, rabbitbrush, antelope bitterbrush, Idaho fescue, Sandberg bluegrass, Lemmon needlegrass, bluebunch wheatgrass, Thurber needlegrass
Site index: Western juniper--26 at an age base of 50 years

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15 percent stones
Layer 1--0 to 4 inches; very stony loam
Layer 2--4 to 9 inches; very cobbly loam
Layer 3--9 to 19 inches; very cobbly clay loam
Layer 4--19 to 23 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
Permeability class (root zone): Moderately slow
Available water capacity: About 2 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R021XE174CA—Stony loam 12-16

Component Description**Devada and similar soils**

Landform: Backslopes of mountains

Slope: 2 to 9 percent

Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite

Typical vegetation: Antelope bitterbrush, Thurber needlegrass, bluegrass, Idaho fescue, low sagebrush, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 40 percent cobbles, 5 percent stones

Layer 1--0 to 7 inches; very cobbly loam

Layer 2--7 to 15 inches; gravelly clay

Layer 3--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE173CA—Shallow stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Fredonyer and similar soils**

Composition: 0 to 4 percent

Slope: 9 to 30 percent

Landform: Ridges

Typical vegetation: Idaho fescue, curleaf mountain mahogany, mountain big sagebrush

Ecological site: R021XE178CA—Very stony loam 12-16

Longcreek and similar soils

Composition: 0 to 4 percent

Slope: 9 to 30 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Thurber needlegrass, antelope bitterbrush, basin wildrye

Ecological site: R023XF082CA—Stony loam 9-12

Ninemile and similar soils

Composition: 0 to 4 percent

Slope: 5 to 15 percent

Landform: Backslopes of plateaus, summits of plateaus

Typical vegetation: Balsamroot, Idaho fescue, Thurber needlegrass, bluegrass, antelope bitterbrush, bottlebrush squirreltail, bluebunch wheatgrass, low sagebrush

Ecological site: R021XE173CA—Shallow stony loam 12-16

Petescreek and similar soils

Composition: 0 to 4 percent

Slope: 9 to 30 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Needlegrass, antelope bitterbrush, Idaho fescue, bluebunch wheatgrass, mountain big sagebrush

Ecological site: R021XE176CA--Loam 12-16

Puls and similar soils

Composition: 0 to 4 percent

Slope: 2 to 9 percent

Landform: Plateaus

Typical vegetation: Antelope bitterbrush, Thurber needlegrass, bluegrass, Idaho fescue, low sagebrush, bluebunch wheatgrass

Ecological site: R021XE173CA

Management

Major uses: Livestock grazing and juniper wood products

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

134--Buckbay-Orhood-Fredonyer association, 5 to 30 percent slopes**Map Unit Setting**

MLRA: 21

Landscape: Mountains

Elevation: 5,400 to 6,200

Precipitation: 12 to 16 inches

Air temperature: 44 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Buckbay gravelly loam, 5 to 30 percent slopes--40 percent
Orhood very stony loam, 5 to 30 percent slopes--25 percent

Fredonyer very stony loam, 5 to 30 percent slopes--20 percent

Searles very stony loam, 5 to 30 percent slopes--8 percent

Jauriga gravelly loam, 5 to 15 percent slopes--7 percent

Component Description

Buckbay and similar soils

Landform: Backslopes of mountains

Slope: 5 to 30 percent, south aspect

Parent material: Colluvium derived from andesite and residuum weathered from andesite

Typical vegetation: Forest canopy--western juniper, Forest understory--bluebunch wheatgrass, Idaho fescue, mountain big sagebrush, needlegrass, antelope bitterbrush

Site index: Western juniper--24 at an age base of 50 years

Typical profile:

Surface rock fragments: About 10 percent gravel, 2 percent cobbles, 1 percent stones

Layer 1--0 to 11 inches; gravelly loam

Layer 2--11 to 19 inches; gravelly loam

Layer 3--19 to 29 inches; cobbly loam

Layer 4--29 to 33 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE176CA

Component Description

Orhood and similar soils

Landform: Backslopes of mountains, ridges

Slope: 5 to 30 percent, south aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--western juniper, Forest understory--bluebunch wheatgrass, Lemmon needlegrass, Sandberg bluegrass, arrowleaf balsamroot, rabbitbrush, Thurber needlegrass, antelope bitterbrush, Idaho fescue, mountain big sagebrush

Site index: Western juniper--26 at an age base of 50 years

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15 percent stones

Layer 1--0 to 4 inches; very stony loam

Layer 2--4 to 9 inches; very cobbly loam

Layer 3--9 to 19 inches; very cobbly clay loam

Layer 4--19 to 23 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE174CA—Stony loam 12-16

Component Description

Fredonyer and similar soils

Landform: Ridges

Slope: 5 to 30 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Idaho fescue, curleaf mountain mahogany, mountain big sagebrush

Typical profile:

Surface rock fragments: About 15 percent cobbles, 15 percent stones

Layer 1--0 to 4 inches; very stony loam

Layer 2--4 to 12 inches; very gravelly loam

Layer 3--12 to 28 inches; very cobbly loam

Layer 4--28 to 38 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE178CA—Very stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Searles and similar soils

Composition: 0 to 8 percent

Slope: 5 to 30 percent, south aspect

Landform: Backslopes of mountains

Typical vegetation: Mountain big sagebrush, Thurber needlegrass, antelope bitterbrush, bluebunch wheatgrass

Ecological site: R021XE179CA—Warm stony loam 12-16

Jauriga and similar soils

Composition: 0 to 7 percent

Slope: 5 to 15 percent, south aspect

Landform: Backslopes of mountains

Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, Idaho fescue, antelope bitterbrush, needlegrass

Ecological site: R021XE176CA—Loam 12-16

Management

Major uses: Livestock grazing and juniper wood products
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

135--Bucklake-Corral-Rubble land association, 30 to 50 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Mountains

Elevation: 4,500 to 5,000

Precipitation: 9 to 12 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Bucklake very stony loam, 30 to 50 percent slopes--30 percent

Corral very stony loam, 30 to 50 percent slopes--30 percent

Rubble land fragmental material, 30 to 50 percent slopes--25 percent

Cochran very cobbly loam, 9 to 15 percent slopes--5 percent

Devada very stony loam, 30 to 50 percent slopes--3 percent

Indiano stony fine sandy loam, 30 to 50 percent slopes--3 percent

Brubeck very cobbly clay, 15 to 30 percent slopes--2 percent

Rock outcrop, 30 to 50 percent slopes--2 percent

Component Description

Bucklake and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent

Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite

Typical vegetation: Basin wildrye, antelope bitterbrush, Thurber needlegrass, bluebunch wheatgrass, mountain big sagebrush, rabbitbrush

Typical profile:

Surface rock fragments: About 15 percent cobbles, 20 percent stones

Layer 1--0 to 8 inches; very stony loam

Layer 2--8 to 12 inches; gravelly clay loam

Layer 3--12 to 24 inches; gravelly clay

Layer 4--24 to 34 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XF082CA—Stony loam 9-12

Component Description

Corral and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent

Parent material: Colluvium derived from tuff and residuum weathered from tuff

Typical vegetation: Bluebunch wheatgrass, Thurber needlegrass, basin wildrye, big sagebrush

Typical profile:

Surface rock fragments: About 15 percent cobbles, 20 percent stones

Layer 1--0 to 4 inches; very stony loam

Layer 2--4 to 12 inches; sandy clay loam

Layer 3--12 to 22 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 12 to 20 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 1.1 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XF082CA—Stony loam 9-12

Component Description

Rubble land

Landform: Mountains

Slope: 30 to 50 percent

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Cochran and similar soils

Composition: 0 to 5 percent

Slope: 9 to 15 percent

Landform: Lake terraces

Typical vegetation: Idaho fescue, antelope bitterbrush, needlegrass, bluebunch wheatgrass, mountain big sagebrush

Ecological site: R021XE174CA—Stony loam 12-16

Devada and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent

Landform: Mountains

Typical vegetation: Bluegrass, Thurber needlegrass, bluebunch wheatgrass, low sagebrush

Ecological site: R023XF081CA—Shallow stony loam 9-12

Indiano and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Other perennial forbs, other perennial grasses, antelope bitterbrush, other shrubs, Thurber needlegrass, basin wildrye, Wyoming big sagebrush, bluebunch wheatgrass

Ecological site: R023XF082CA—Stony loam 9-12

Brubeck and similar soils

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Plateaus

Typical vegetation: Thurber needlegrass, littleleaf horsebrush, beardless wildrye, big sagebrush, rubber rabbitbrush, bottlebrush squirreltail, western wheatgrass

Ecological site: R023XF084CA—Clay upland 9-16

Rock outcrop

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Mountains

Ecological site: None assigned

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

136--Bunanch very gravelly loam, 9 to 30 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Hills

Elevation: 4,700 to 5,000

Precipitation: 20 to 30 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Bunanch very gravelly loam, 9 to 30 percent slopes--90 percent

Uhalf very gravelly sandy loam, 15 to 30 percent slopes--5 percent

Jauriga gravelly loam, 9 to 15 percent slopes--4 percent

Keddie loam, 0 to 2 percent slopes--1 percent

Component Description

Bunanch and similar soils

Landform: Backslopes of hills

Slope: 9 to 30 percent

Parent material: Alluvium derived from conglomerate

Typical vegetation: Forest canopy--Jeffrey pine,

Forest understory--mountain big sagebrush, Idaho fescue, antelope bitterbrush

Site index: Jeffrey pine--62 at an age base of 100 years

Additional forest note: Dunning site class: IV

Additional forest note: Cactus site index: 47

Typical profile:

Layer 1--0 to 7 inches; very gravelly loam

Layer 2--7 to 22 inches; very gravelly clay loam

Layer 3--22 to 63 inches; very gravelly clay

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: Very high

Permeability class (root zone): Slow

Available water capacity: About 5 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Uihalf and similar soils

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Toeslopes of plateaus

Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, ponderosa pine; Forest understory--mountain big sagebrush, Idaho fescue, antelope bitterbrush

Ecological site: None assigned

Jauriga and similar soils

Composition: 0 to 4 percent

Slope: 9 to 15 percent, south aspect

Landform: Backslopes of mountains

Typical vegetation: Needlegrass, mountain big sagebrush, Idaho fescue, bluebunch wheatgrass, antelope bitterbrush

Ecological site: R021XE176CA--Loam 12-16

Keddie and similar soils

Composition: 0 to 1 percent

Slope: 0 to 2 percent

Landform: Alluvial fans

Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing, watershed, wildlife habitat and recreation

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

137--Cagwin loamy coarse sand, 15 to 30 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains

Elevation: 5,000 to 5,600

Precipitation: 25 to 30 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Cagwin loamy coarse sand, 15 to 30 percent slopes--85 percent

Penstock very gravelly loam, 15 to 30 percent slopes, very stony--5 percent

Quartzburg stony loamy sand, 30 to 50 percent slopes--3 percent

Cagwin, loamy coarse sand, 15 to 30 percent slopes, very bouldery--3 percent

Lasco gravelly sandy loam, 15 to 30 percent slopes--2 percent

Cagwin loamy coarse sand, 30 to 50 percent slopes--2 percent

Component Description

Cagwin and similar soils

Landform: Backslopes of mountains

Slope: 15 to 30 percent

Parent material: Colluvium derived from granite and residuum weathered from granite

Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--pinemat manzanita, greenleaf manzanita, whitethorn ceanothus

Site index: Jeffrey pine--94 at an age base of 100 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 61

Typical profile:

Layer 1--0 to 8 inches; loamy coarse sand
 Layer 2--8 to 36 inches; gravelly loamy coarse sand
 Layer 3--36 to 39 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Rapid
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Penstock and similar soils**

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--needlegrass, snowbrush ceanothus, whitethorn ceanothus, manzanita, mountain brome, sharpleaf snowberry
 Ecological site: None assigned

Quartzburg and similar soils

Composition: 0 to 3 percent
 Slope: 30 to 50 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--Jeffrey pine
 Ecological site: None assigned

Cagwin and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Ecological site: None assigned

Lasco and similar soils

Composition: 0 to 2 percent
 Slope: 15 to 30 percent
 Landform: Mountains

Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--Idaho fescue, big sagebrush, antelope bitterbrush

Ecological site: None assigned

Cagwin and similar soils

Composition: 0 to 2 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--whitethorn ceanothus, greenleaf manzanita, pinemat manzanita
 Ecological site: None assigned

Management

Major uses: Timber production and livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

138--Cagwin loamy coarse sand, 30 to 50 percent slopes***Map Unit Setting***

MLRA: 22
 Landscape: Mountains
 Elevation: 5,000 to 5,600
 Precipitation: 25 to 30 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Cagwin loamy coarse sand, 30 to 50 percent slopes--85 percent
 Cagwin family loamy coarse sand, 30 to 50 percent slopes--3 percent
 Penstock family very gravelly loam, 30 to 50 percent slopes, very stony--5 percent
 Lasco sandy loam, 30 to 50 percent slopes--5 percent
 Cagwin loamy coarse sand, 30 to 50 percent slopes, very bouldery--1 percent
 Quartzburg stony loamy sand, 30 to 50 percent slopes--1 percent

Component Description**Cagwin and similar soils**

Landform: Backslopes of mountains
 Slope: 30 to 50 percent

Parent material: Colluvium derived from granite and residuum weathered from granite
 Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--greenleaf manzanita, pinemat manzanita, whitethorn ceanothus
 Site index: Jeffrey pine--94 at an age base of 100 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 61

Typical profile:

Layer 1--0 to 8 inches; loamy coarse sand
 Layer 2--8 to 36 inches; gravelly loamy coarse sand
 Layer 3--36 to 39 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Rapid
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Penstock family and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--needlegrass, snowbrush ceanothus, manzanita, sharpleaf snowberry, whitethorn ceanothus
 Ecological site: None assigned

Lasco and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Toeslopes of mountains
 Typical vegetation: Forest canopy--California black oak, Jeffrey pine, incense cedar, ponderosa pine; Forest understory--snowbrush ceanothus, manzanita, needlegrass, whitethorn ceanothus, mountain brome
 Ecological site: None assigned

Cagwin family and similar soils

Composition: 0 to 3 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--pinemat manzanita, greenleaf manzanita, whitethorn ceanothus
 Ecological site: None assigned

Cagwin and similar soils

Composition: 0 to 1 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--greenleaf manzanita, pinemat manzanita, whitethorn ceanothus
 Ecological site: None assigned

Quartzburg and similar soils

Composition: 0 to 1 percent
 Slope: 30 to 50 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--Jeffrey pine
 Ecological site: None assigned

Management

Major uses: Timber production and livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

139--Calnat sandy loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Lake plain
 Elevation: 4,000 to 4,010
 Precipitation: 6 to 9 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Calnat sandy loam, 0 to 2 percent slopes--90 percent
 Playas silty clay, 0 to 1 percent slopes--5 percent
 McDermott silt loam, 0 to 2 percent slopes--5 percent

Component Description

Calnat and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Lacustrine deposits

Typical vegetation: Basin big sagebrush, basin wildrye,
black greasewood, bottlebrush squirreltail

Typical profile:

Layer 1--0 to 5 inches; sandy loam

Layer 2--5 to 13 inches; sandy clay loam

Layer 3--13 to 28 inches; loam

Layer 4--28 to 60 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderately slow

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XG048CA—Sodic loam 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Playas silty clay

Composition: 0 to 5 percent

Slope: 0 to 1 percent

Landform: Playa

Ecological site: None assigned

McDermott and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Basin wildrye, basin big sagebrush,
black greasewood, bottlebrush squirreltail

Ecological site: R023XG048CA—Sodic loam 6-9

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

140--Calneva silt loam, 0 to 1 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Bolson

Elevation: 4,000 to 4,010

Precipitation: 6 to 9 inches

Air temperature: 49 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Calneva silt loam, 0 to 1 percent slopes--85 percent

Playas silty clay, 0 to 1 percent slopes--6 percent

Ragtown loam, 0 to 1 percent slopes--5 percent

Lieberman fine sandy loam, 0 to 1 percent slopes--4 percent

Component Description

Calneva and similar soils

Landform: Lake terrace

Slope: 0 to 1 percent

Parent material: Lacustrine deposits

Typical vegetation: Bud sagebrush, shadscale, bottlebrush squirreltail, black greasewood

Typical profile:

Layer 1--0 to 6 inches; silt loam

Layer 2--6 to 16 inches; silty clay

Layer 3--16 to 36 inches; loam

Layer 4--36 to 72 inches; stratified sand to silty clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 7 inches

Present flooding: None

Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XG046CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Playas silty clay

Composition: 0 to 6 percent

Slope: 0 to 1 percent

Landform: Playa

Ecological site: None assigned

Ragtown and similar soils

Composition: 0 to 5 percent

Slope: 0 to 1 percent

Landform: Lake terraces

Typical vegetation: Black greasewood, bottlebrush
squirreltail, spiny hopsage, shadscale, basin wildrye

Ecological site: R023XG047CA

Lieberman and similar soils

Composition: 0 to 4 percent

Slope: 0 to 1 percent

Landform: Lake terraces

Typical vegetation: Black greasewood, shadscale,
bottlebrush squirreltail, bud sagebrush

Ecological site: R023XG046CA—Sodic flat 6-9

Management

Major uses: Livestock grazing and urban development

For information about managing this map unit, see the
following sections and associated tables in Part II of
this publication:

"Range" section

"Engineering" section

"Soil Properties" section

141--Calneva-Playas complex, 0 to 1 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Bolson

Elevation: 4,000 to 4,010

Precipitation: 6 to 9 inches

Air temperature: 49 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Calneva silt loam, 0 to 1 percent slopes--65 percent

Playas silty clay, 0 to 1 percent slopes--20 percent

Mazuma fine sandy loam, 0 to 2 percent slopes--8 percent

Calneva silt loam, clay loam substratum, 0 to 1 percent
slopes--7 percent

Component Description

Calneva and similar soils

Landform: Lake terrace

Slope: 0 to 1 percent

Parent material: Lacustrine deposits

Typical vegetation: Bottlebrush squirreltail, shadscale,
black greasewood, bud sagebrush

Typical profile:

Layer 1--0 to 6 inches; silt loam

Layer 2--6 to 16 inches; silty clay

Layer 3--16 to 36 inches; loam

Layer 4--36 to 72 inches; stratified sand to silty clay loam

See "Chemical Properties of Soils" table and the "Physical
Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 7 inches

Present flooding: None

Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XG046CA—Sodic flat 6-9

Component Description

Playas silty clay

Landform: Playa

Slope: 0 to 1 percent

Component Properties and Qualities

Runoff: Negligible

Salinity: Saline within 40 inches

Present ponding: Frequent

Interpretive Groups

Nonirrigated land capability: 8

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics
are in the "Classification of the Soils" section.

Contrasting Inclusions

Mazuma and similar soils

Composition: 0 to 8 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Black greasewood, bottlebrush
squirreltail, seepweed, shadscale, basin wildrye

Ecological site: R023XG050CA—Saline-sodic flat 6-9

Calneva and similar soils

Composition: 0 to 7 percent

Slope: 0 to 1 percent

Landform: Basin floors

Typical vegetation: Bottlebrush squirreltail, black
greasewood, spiny hopsage, basin wildrye, shadscale
Ecological site: R023XG047CA—Sodic terrace 6-9

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

142--Calpine coarse sandy loam, 0 to 5 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Fan piedmont

Elevation: 4,000 to 4,300

Precipitation: 12 to 16 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Calpine coarse sandy loam, 0 to 5 percent slopes--85 percent

Springmeyer sandy clay loam, 0 to 5 percent slopes--8 percent

Badenaugh family stony sandy loam, 0 to 5 percent slopes--7 percent

Component Description

Calpine and similar soils

Landform: Fan remnants

Slope: 0 to 5 percent

Parent material: Alluvium derived from granite

Typical vegetation: Mountain big sagebrush, beardless wildrye, Indian ricegrass, needleandthread, antelope bitterbrush, western needlegrass

Typical profile:

Layer 1--0 to 20 inches; coarse sandy loam

Layer 2--20 to 35 inches; sandy loam

Layer 3--35 to 60 inches; stratified gravelly coarse sandy loam to gravelly sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low

Permeability class (root zone): Moderately rapid

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3e-1

Nonirrigated land capability: 4e-1

Ecological site: R021XE181CA—Granitic fan 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Springmeyer and similar soils

Composition: 0 to 8 percent

Slope: 0 to 5 percent

Landform: Fan remnants

Ecological site: None assigned

Badenaugh family and similar soils

Composition: 0 to 7 percent

Slope: 0 to 5 percent

Landform: Fan remnants

Typical vegetation: Needlegrass, green ephedra, Anderson peachbrush, bluebunch wheatgrass, antelope bitterbrush, big sagebrush

Ecological site: R026XF052CA—Granitic upland 9-12

Management

Major uses: Urban development and livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

143--Calpine sandy loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Fan piedmont

Elevation: 4,100 to 4,300

Precipitation: 12 to 16 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Calpine sandy loam, 0 to 2 percent slopes--80 percent

Truax sandy loam, 0 to 2 percent slopes--5 percent

Plinco loam, 0 to 2 percent slopes--5 percent

Springmeyer sandy loam, 0 to 2 percent slopes--5 percent

Mottsville loamy coarse sand, 0 to 2 percent slopes--5 percent

Component Description

Calpine and similar soils

Landform: Alluvial fans

Slope: 0 to 2 percent

Parent material: Alluvium derived from granite

Typical vegetation: Mountain big sagebrush, beardless wildrye, Indian ricegrass, antelope bitterbrush, needleandthread, western needlegrass

Typical profile:

Layer 1--0 to 24 inches; sandy loam

Layer 2--24 to 60 inches; sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low

Permeability class (root zone): Moderately rapid

Available water capacity: About 7 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e-1

Nonirrigated land capability: 4e-1

Ecological site: R021XE181CA—Granitic fan 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Truax and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Fan remnants

Typical vegetation: Mountain big sagebrush, Idaho fescue, antelope bitterbrush, needleandthread, beardless wildrye

Ecological site: R021XE180CA—Sandy loam fan 12-16

Plinco and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Alluvial fans

Ecological site: None assigned

Springmeyer and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Fans remnant

Typical vegetation: Other perennial forbs, basin wildrye, yellow rabbitbrush, other shrubs, Thurber needlegrass, other perennial grasses, antelope bitterbrush, other annual forbs, bottlebrush squirreltail, big sagebrush
Ecological site: R021XE186CA—Loamy terrace 12-16

Mottsville and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Fan remnants

Typical vegetation: Other perennial grasses, Indian ricegrass, mountain big sagebrush, other perennial forbs, bottlebrush squirreltail, needleandthread, antelope bitterbrush, other shrubs

Ecological site: R021XE181CA—Granitic fan 12-16

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing, wildlife habitat and urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

144--Calpine sandy loam, 2 to 5 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Fan piedmont

Elevation: 4,050 to 4,200

Precipitation: 12 to 16 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Calpine sandy loam, 2 to 5 percent slopes--80 percent

Modoc sandy loam, 2 to 5 percent slopes--5 percent

Springmeyer sandy loam, 2 to 5 percent slopes--4 percent

Mottsville loamy coarse sand, 2 to 5 percent slopes--4 percent

McConnel gravelly fine sandy loam, 2 to 5 percent slopes--4 percent

Stacy fine sandy loam, 2 to 5 percent slopes--3 percent

Component Description

Calpine and similar soils

Landform: Fan remnants

Slope: 2 to 5 percent

Parent material: Alluvium derived from granite

Typical vegetation: Mountain big sagebrush, beardless wildrye, Indian ricegrass, antelope bitterbrush, needleandthread, western needlegrass

Typical profile:

Layer 1--0 to 24 inches; sandy loam
Layer 2--24 to 60 inches; sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low
Permeability class (root zone): Moderately rapid
Available water capacity: About 7 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e-1
Nonirrigated land capability: 4e-1
Ecological site: R021XE181CA—Granitic fan 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Modoc and similar soils

Composition: 0 to 5 percent
Slope: 2 to 5 percent
Landform: Fan remnants
Typical vegetation: Idaho fescue, bluebunch wheatgrass, basin big sagebrush, basin wildrye
Ecological site: R021XE186CA

Springmeyer and similar soils

Composition: 0 to 4 percent
Slope: 2 to 5 percent
Landform: Fans, terraces
Typical vegetation: Other shrubs, big sagebrush, bottlebrush squirreltail, other annual forbs, yellow rabbitbrush, Thurber needlegrass, other perennial grasses, antelope bitterbrush, basin wildrye, other perennial forbs
Ecological site: R021XE186CA—Loamy terrace 12-16

Mottsville and similar soils

Composition: 0 to 4 percent
Slope: 2 to 5 percent
Landform: Fan remnants
Typical vegetation: Needleandthread, mountain big sagebrush, Indian ricegrass, antelope bitterbrush, bottlebrush squirreltail, other perennial forbs, other perennial grasses, other shrubs
Ecological site: R021XE181CA—Granitic fan 12-16

McConnel and similar soils

Composition: 0 to 4 percent
Slope: 2 to 5 percent
Landform: Fan remnants
Typical vegetation: Needleandthread, globemallow, bottlebrush squirreltail, Indian ricegrass, Wyoming big sagebrush, Sandberg bluegrass
Ecological site: R023XG054CA—Sandy terrace 6-9

Stacy and similar soils

Composition: 0 to 3 percent
Slope: 2 to 5 percent
Landform: Alluvial fans
Typical vegetation: Black greasewood, basin big sagebrush, basin wildrye
Ecological site: R023XG051CA—Loamy bottom 6-9

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing, wildlife habitat and urban development
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" section
"Soil Properties" section

145--Calpine, warm, 0 to 15 percent slopes

Map Unit Setting

MLRA: 21
Landscape: Fan piedmont
Elevation: 4,200 to 4,500
Precipitation: 12 to 16 inches
Air temperature: 50 to 52 degrees Fahrenheit
Frost-free period: 100 to 130 days

Composition

Calpine sandy loam, 5 to 15 percent slopes--90 percent
Plinco loam, 5 to 9 percent slopes--10 percent

Component Description

Calpine and similar soils

Landform: Alluvial fans
Slope: 5 to 15 percent
Parent material: Alluvium derived from granite
Typical vegetation: Antelope bitterbrush, Indian ricegrass, needleandthread, western needlegrass, mountain big sagebrush, beardless wildrye

Typical profile:

Layer 1--0 to 21 inches; sandy loam

Layer 2--21 to 46 inches; sandy loam
 Layer 3--46 to 81 inch; stratified coarse sand to loamy fine sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 4e-1
 Nonirrigated land capability: 4e-1
 Ecological site: R021XE181CA—Granitic fan 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Plinco and similar soils

Composition: 0 to 10 percent
 Slope: 5 to 9 percent
 Landform: Alluvial fan
 Ecological site: None assigned

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing, wildlife habitat and urban development
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

146--Indiano-Chalco complex, 2 to 9 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Plateau
 Elevation: 5,000 to 5,200
 Precipitation: 12 to 14 inches
 Air temperature: 47 to 49 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Indiano gravelly sandy loam, 2 to 9 percent slopes--50 percent

Chalco gravelly fine sandy loam, 2 to 9 percent slopes--30 percent

Corral sandy loam, 2 to 5 percent slopes--8 percent
 Cleghorn sandy loam, 2 to 5 percent slopes--7 percent
 Corral family sandy loam, 5 to 9 percent slopes--5 percent

Component Description

Indiano and similar soils

Landform: Summits of plateaus
 Slope: 2 to 9 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Antelope bitterbrush, green ephedra, basin wildrye, big sagebrush, Thurber needlegrass, bluebunch wheatgrass

Typical profile:

Layer 1--0 to 7 inches; gravelly sandy loam
 Layer 2--7 to 27 inches; gravelly clay loam
 Layer 3--27 to 31 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R021XE176CA--Loam 12-16

Component Description

Chalco and similar soils

Landform: Plateaus
 Slope: 2 to 9 percent
 Parent material: Colluvium derived from tuff and residuum weathered from tuff
 Typical vegetation: Low sagebrush, Sandberg bluegrass, other perennial grasses, bottlebrush squirreltail, Thurber needlegrass, littleleaf horsebrush

Typical profile:

Layer 1--0 to 4 inches; gravelly fine sandy loam
 Layer 2--4 to 15 inches; clay
 Layer 3--15 to 19 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches
 Permeability class (root zone): Very slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R021XE184CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Corral and similar soils**

Composition: 0 to 8 percent
 Slope: 2 to 5 percent
 Landform: Rock pediment
 Typical vegetation: Big sagebrush, needleandthread, basin wildrye
 Ecological site: R021XE195CA—Sandy loam terrace 12-16

Cleghorn and similar soils

Composition: 0 to 7 percent
 Slope: 2 to 5 percent
 Landform: Fan remnant
 Typical vegetation: Needleandthread, basin big sagebrush, basin wildrye, beardless wildrye, Thurber needlegrass
 Ecological site: R021XE195CA—Sandy loam terrace 12-16

Corral family and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 9 percent
 Landform: Fan remnants
 Typical vegetation: Littleleaf horsebrush, Thurber needlegrass, low sagebrush, bottlebrush squirreltail, Sandberg bluegrass, other perennial grasses
 Ecological site: R021XE184CA—Shallow loam 12-16

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section

"Soil Properties" section

147--Capona-Rock outcrop complex, 2 to 9 percent slopes***Map Unit Setting***

MLRA: 21
 Landscape: Plateau
 Elevation: 5,000 to 5,200
 Precipitation: 12 to 14 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Capona fine sandy loam, 2 to 9 percent slopes--55 percent
 Rock outcrop unweathered bedrock, 2 to 9 percent slopes--30 percent
 Calpine sandy loam, 2 to 9 percent slopes--5 percent
 Devada very stony loam, 2 to 9 percent slopes--4 percent
 Jauriga gravelly loam, 2 to 9 percent slopes--2 percent
 Hart Camp gravelly loam, 2 to 9 percent slopes--2 percent
 Indiano gravelly sandy loam, 2 to 9 percent slopes--2 percent

Component Description**Capona and similar soils**

Landform: Plateaus
 Slope: 2 to 9 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Bluebunch wheatgrass, big sagebrush, Idaho fescue, antelope bitterbrush, needlegrass

Typical profile:

Layer 1--0 to 11 inches; fine sandy loam
 Layer 2--11 to 39 inches; loam
 Layer 3--39 to 43 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 7 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R021XE176CA--Loam 12-16

Component Description**Rock outcrop**

Landform: Plateaus

Slope: 2 to 9 percent

Component Properties and Qualities

Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Calpine and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 9 percent

Landform: Alluvial fans

Typical vegetation: Western needlegrass, mountain big sagebrush, beardless wildrye, Indian ricegrass, antelope bitterbrush, needleandthread

Ecological site: R021XE181CA—Granitic fan 12-16

Devada and similar soils

Composition: 0 to 4 percent

Slope: 2 to 9 percent

Landform: Mountains

Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, low sagebrush, Idaho fescue, bluegrass, antelope bitterbrush

Ecological site: R021XE173CA—Shallow stony loam 12-16

Jauriga and similar soils

Composition: 0 to 2 percent

Slope: 2 to 9 percent

Landform: Backslopes of mountains

Typical vegetation: Needlegrass, bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, Idaho fescue

Ecological site: R021XE176CA--Loam 12-16

Hart Camp and similar soils

Composition: 0 to 2 percent

Slope: 2 to 9 percent

Landform: Backslopes of mountains

Typical vegetation: Needlegrass, bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush

Ecological site: R021XE176CA--Loam 12-16

Indiano and similar soils

Composition: 0 to 2 percent

Slope: 2 to 9 percent

Landform: Summits of plateaus

Typical vegetation: Big sagebrush, bluebunch wheatgrass, basin wildrye, green ephedra, antelope bitterbrush, Thurber needlegrass

Ecological site: R021XE176CA--Loam 12-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

148--Cewat very stony fine sandy loam, 5 to 15 percent slopes***Map Unit Setting***

MLRA: 23

Landscape: Fan piedmont

Elevation: 4,200 to 4,400

Precipitation: 6 to 9 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 110 days

Composition

Cewat very stony fine sandy loam, 5 to 15 percent slopes--80 percent

Zorravista fine sand, 5 to 15 percent slopes--5 percent

Ardep fine sandy loam, 0 to 2 percent slopes--5 percent

Toulon very gravelly fine sandy loam, 2 to 5 percent slopes--5 percent

Brubeck very cobbly clay, 5 to 15 percent slopes--5 percent

Component Description**Cewat and similar soils**

Landform: Fan remnants

Slope: 5 to 15 percent

Parent material: Colluvium derived from granite

Typical vegetation: Indian ricegrass, Wyoming big sagebrush, bottlebrush squirreltail, spiny hopsage, littleleaf horsebrush, Thurber needlegrass

Typical profile:

Layer 1--0 to 4 inches; very stony fine sandy loam

Layer 2--4 to 9 inches; very gravelly loam

Layer 3--9 to 21 inches; extremely gravelly loam

Layer 4--21 to 25 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XG056CA—Droughty loam 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Zorravista and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 15 percent
 Landform: Dunes
 Typical vegetation: Spiny hopsage, basin big sagebrush, fourwing saltbush, rubber rabbitbrush, basin wildrye, Indian ricegrass, black greasewood, needleandthread, littleleaf horsebrush
 Ecological site: R023XG049CA—Sand dunes 6-9

Ardep and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Shadscale, bud sagebrush, bottlebrush squirreltail, black greasewood
 Ecological site: R023XG046CA—Sodic flat 6-9

Toulon and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 5 percent
 Landform: Fan remnants
 Typical vegetation: Bottlebrush squirreltail, shadscale, spiny hopsage, Indian ricegrass
 Ecological site: R023XG057CA—Sodic gravelly sand 6-9

Brubeck and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 15 percent
 Landform: Plateaus
 Typical vegetation: Beardless wildrye, western wheatgrass, big sagebrush, rubber rabbitbrush, bottlebrush squirreltail, Thurber needlegrass, littleleaf horsebrush
 Ecological site: R023XF084CA—Clay upland 9-16

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

149--Cewat-McConnel-Toulon association, 2 to 15 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 4,000 to 4,350
 Precipitation: 6 to 9 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Cewat very stony fine sandy loam, 5 to 15 percent slopes--35 percent
 McConnel gravelly fine sandy loam, 5 to 15 percent slopes--35 percent
 Toulon very gravelly fine sandy loam, 2 to 5 percent slopes--15 percent
 Stacy fine sandy loam, 0 to 2 percent slopes--8 percent
 McConnel family gravelly fine sandy loam, 2 to 9 percent slopes--7 percent

Component Description

Cewat and similar soils

Landform: Fan remnants
 Slope: 5 to 15 percent
 Parent material: Colluvium derived from granite
 Typical vegetation: Littleleaf horsebrush, Thurber needlegrass, desert needlegrass, bottlebrush squirreltail, Indian ricegrass, green ephedra, Wyoming big sagebrush, bluebunch wheatgrass

Typical profile:

Layer 1--0 to 4 inches; very stony fine sandy loam
 Layer 2--4 to 9 inches; very gravelly loam
 Layer 3--9 to 21 inches; extremely gravelly loam
 Layer 4--21 to 25 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderate
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XG053CA—Stony loam 6-9

Component Description

McConnel and similar soils

Landform: Inset fan
 Slope: 5 to 15 percent
 Parent material: Alluvium derived from mixed rocks and lacustrine deposits
 Typical vegetation: Indian ricegrass, Sandberg bluegrass, bottlebrush squirreltail, globemallow, needleandthread, Wyoming big sagebrush

Typical profile:

Layer 1--0 to 3 inches; gravelly fine sandy loam
 Layer 2--3 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low
 Permeability class (root zone): Moderately rapid
 Salinity: Saline within 40 inches
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XG054CA—Sandy terrace 6-9

Component Description

Toulon and similar soils

Landform: Fan remnants
 Slope: 2 to 5 percent
 Parent material: Alluvium derived from mixed rocks
 Typical vegetation: Shadscale, bottlebrush squirreltail, Indian ricegrass, spiny hopsage

Typical profile:

Layer 1--0 to 3 inches; very gravelly fine sandy loam
 Layer 2--3 to 14 inches; very gravelly sandy loam
 Layer 3--14 to 37 inches; stratified very gravelly sand to extremely gravelly loamy coarse sand
 Layer 4--37 to 60 inches; stratified gravelly coarse sand to extremely cobbly coarse sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XG057CA—Sodic gravelly sand 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Stacy and similar soils

Composition: 0 to 8 percent
 Slope: 0 to 2 percent
 Landform: Alluvial fans
 Typical vegetation: Black greasewood, basin big sagebrush, basin wildrye
 Ecological site: R023XG051CA—Loamy bottom 6-9

McConnel family and similar soils

Composition: 0 to 7 percent
 Slope: 2 to 9 percent
 Landform: Fan remnants
 Typical vegetation: Wyoming big sagebrush, Indian ricegrass, Sandberg bluegrass, bottlebrush squirreltail, needleandthread, globemallow
 Ecological site: R023XG054CA—Sandy terrace 6-9

Management

Major uses: Livestock grazing and urban development
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

150--Chappuis coarse sandy loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Lake plain
 Elevation: 3,990 to 4,000

Precipitation: 9 to 12 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Chappuis coarse sandy loam, 0 to 2 percent slopes--80 percent
 Playas silty clay, 0 to 1 percent slopes--5 percent
 Chappuis coarse sandy loam, 0 to 2 percent slopes, eroded--5 percent
 Ragtown loam, 0 to 2 percent slopes--5 percent
 McDermott silt loam, 0 to 2 percent slopes--5 percent

Component Description

Chappuis and similar soils

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Lacustrine deposits
 Typical vegetation: Basin wildrye, basin big sagebrush, black greasewood, bottlebrush squirreltail

Typical profile:

Layer 1--0 to 7 inches; coarse sandy loam
 Layer 2--7 to 17 inches; silty clay
 Layer 3--17 to 60 inches; silt loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Permeability class (root zone): Slow
 Salinity: Saline within 40 inches
 Sodidity: Sodic within 40 inches
 Available water capacity: About 9 inches
 Present flooding: None
 Water table: Present
 Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XG048CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Playas silty clay

Composition: 0 to 5 percent
 Slope: 0 to 1 percent
 Landform: Playa
 Ecological site: None assigned

Chappuis eroded and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent

Landform: Lake terraces
 Typical vegetation: Basin big sagebrush, basin wildrye, black greasewood, bottlebrush squirreltail
 Ecological site: R023XG048CA—Sodic loam 6-9

Ragtown and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Bottlebrush squirreltail, shadscale, basin wildrye, spiny hopsage, black greasewood
 Ecological site: R023XG047CA—Sodic terrace 6-9

McDermott and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Basin big sagebrush, bottlebrush squirreltail, black greasewood, basin wildrye
 Ecological site: R023XG048CA—Sodic loam 6-9

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

151--Chappuis silt loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Lake plain
 Elevation: 3,980 to 4,100
 Precipitation: 9 to 12 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Chappuis silt loam, 0 to 2 percent slopes--85 percent
 Susanville silt loam, 0 to 2 percent slopes--5 percent
 Standish fine sandy loam, 0 to 2 percent slopes--5 percent
 Ardep fine sandy loam, 0 to 2 percent slopes--5 percent

Component Description

Chappuis and similar soils

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Lacustrine deposits
 Typical vegetation: Basin big sagebrush, rabbitbrush, inland saltgrass, basin wildrye, black greasewood

Typical profile:

Layer 1--0 to 10 inches; silt loam
 Layer 2--10 to 19 inches; silty clay
 Layer 3--19 to 25 inches; loam
 Layer 4--25 to 60 inches; silt loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Permeability class (root zone): Slow
 Salinity: Saline within 40 inches
 Sodicty: Sodic within 40 inches
 Available water capacity: About 7 inches
 Present flooding: None
 Water table: Present
 Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XG059CA—Saline-sodic loam 6-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Susanville and similar soils**

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Stream terraces
 Typical vegetation: Black greasewood, basin wildrye, basin big sagebrush
 Ecological site: R023XG051CA

Standish and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Basin wildrye, black greasewood, basin big sagebrush, rabbitbrush, inland saltgrass
 Ecological site: R023XG059CA—Saline-sodic loam 6-12

Ardep and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Bottlebrush squirreltail, black greasewood, shadscale, bud sagebrush
 Ecological site: R023XG046CA—Sodic flat 6-9

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

152--Chimney gravelly loamy coarse sand, 2 to 9 percent slopes***Map Unit Setting***

MLRA: 22
 Landscape: Mountains
 Elevation: 4,300 to 4,500
 Precipitation: 16 to 25 inches
 Air temperature: 48 to 50 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Chimney gravelly loamy coarse sand, 2 to 9 percent slopes--90 percent
 Mottsville loamy coarse sand, 2 to 9 percent slopes--6 percent
 Rock outcrop, 5 to 9 percent slopes--4 percent

Component Description**Chimney and similar soils**

Landform: Toeslopes of mountains
 Slope: 2 to 9 percent
 Parent material: Colluvium derived from granite
 Typical vegetation: Forest canopy--California black oak, Jeffrey pine; Forest understory--squawcarpet, Idaho fescue, antelope bitterbrush, bottlebrush squirreltail, Columbia needlegrass, mountain big sagebrush
 Site index: Jeffrey pine--75 at an age base of 100 years
 Additional forest note: Dunning site class: III
 Additional forest note: Cactus site index: 52

Typical profile:

Layer 1--0 to 13 inches; gravelly loamy coarse sand
 Layer 2--13 to 35 inches; gravelly loamy coarse sand
 Layer 3--35 to 60 inches; loamy coarse sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low
 Depth to restrictive feature: Bedrock (paralithic): 60 inches
 Permeability class (root zone): Rapid
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Mottsville and similar soils**

Composition: 0 to 6 percent

Slope: 2 to 9 percent

Landform: Fan remnants

Typical vegetation: Needleandthread, antelope bitterbrush, other shrubs, other perennial grasses, other perennial forbs, Indian ricegrass, mountain big sagebrush, bottlebrush squirreltail

Ecological site: R021XE181CA—Granitic fan 12-16

Rock outcrop

Composition: 0 to 4 percent

Slope: 5 to 9 percent

Landform: Mountains

Ecological site: None assigned

Management

Major uses: Timber production and urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

153--Chimney gravelly loamy coarse sand, 9 to 15 percent slopes**Map Unit Setting**

MLRA: 22

Landscape: Mountains

Elevation: 4,200 to 4,500

Precipitation: 16 to 25 inches

Air temperature: 48 to 50 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Chimney gravelly loamy coarse sand, 9 to 15 percent slopes--85 percent

Bonta gravelly sandy loam, 9 to 15 percent slopes--8 percent

Mottsville loamy coarse sand, 9 to 15 percent slopes--7 percent

Component Description**Chimney and similar soils**

Landform: Toeslopes of mountains

Slope: 9 to 15 percent

Parent material: Colluvium derived from granite

Typical vegetation: Forest canopy--California black oak, Jeffrey pine; Forest understory--Columbia needlegrass, bottlebrush squirreltail, antelope bitterbrush, Idaho fescue, mountain big sagebrush, squawcarpet

Site index: Jeffrey pine--75 at an age base of 100 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 52

Typical profile:

Layer 1--0 to 13 inches; gravelly loamy coarse sand

Layer 2--13 to 35 inches; gravelly loamy coarse sand

Layer 3--35 to 60 inches; loamy coarse sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: Low

Depth to restrictive feature: Bedrock (paralithic): 60 to 80 inches

Permeability class (root zone): Rapid

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Bonta and similar soils**

Composition: 0 to 8 percent

Slope: 9 to 15 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, ponderosa pine, white fir; Forest understory--mountain big sagebrush, needlegrass, antelope bitterbrush, snowbrush ceanothus, whitethorn ceanothus, mountain brome

Ecological site: None assigned

Mottsville and similar soils

Composition: 0 to 7 percent

Slope: 9 to 15 percent

Landform: Fan remnants

Typical vegetation: Mountain big sagebrush, Indian ricegrass, antelope bitterbrush, needleandthread, bottlebrush squirreltail, other perennial forbs, other shrubs, other perennial grasses

Ecological site: R021XE181CA—Granitic fan 12-16

Management

Major uses: Timber production, livestock grazing, urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

154--Chimney-Janile-Waterman association, 15 to 50 percent slopes**Map Unit Setting**

MLRA: 22

Landscape: Mountains

Elevation: 4,300 to 5,000

Precipitation: 16 to 25 inches

Air temperature: 48 to 50 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Chimney gravelly loamy coarse sand, 30 to 50 percent slopes--35 percent

Janile gravelly loamy coarse sand, 30 to 50 percent slopes, very bouldery--35 percent

Waterman gravelly loamy coarse sand, 15 to 50 percent slopes, very bouldery--15 percent

Rock outcrop, 30 to 50 percent slopes--5 percent

Mottsville gravelly loamy coarse sand, 15 to 30 percent slopes--5 percent

Bonta gravelly sandy loam, 15 to 50 percent slopes--5 percent

Component Description**Chimney and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 50 percent, north aspect

Parent material: Colluvium derived from granite

Typical vegetation: Forest canopy--California black oak, Jeffrey pine; Forest understory--mountain big

sagebrush, squawcarpet, Idaho fescue, antelope bitterbrush, Columbia needlegrass, bottlebrush squirreltail

Site index: Jeffrey pine--75 at an age base of 100 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 52

Typical profile:

Layer 1--0 to 13 inches; gravelly loamy coarse sand

Layer 2--13 to 35 inches; gravelly loamy coarse sand

Layer 3--35 to 60 inches; loamy coarse sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 60 inches

Permeability class (root zone): Rapid

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Component Description**Janile and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 50 percent, south aspect

Parent material: Colluvium derived from granite and residuum weathered from granite

Typical vegetation: Forest canopy--Jeffrey pine, Forest understory--mountain big sagebrush, Columbia needlegrass, bottlebrush squirreltail, antelope bitterbrush, Idaho fescue

Site index: Jeffrey pine--74 at an age base of 100 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 49

Typical profile:

Surface rock fragments: About 10 percent boulders

Layer 1--0 to 4 inches; gravelly loamy coarse sand

Layer 2--4 to 19 inches; very gravelly loamy coarse sand

Layer 3--19 to 24 inches; extremely gravelly loamy coarse sand

Layer 4--24 to 34 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Rapid

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: None assigned

Component Description**Waterman and similar soils**

Landform: Ridges

Slope: 15 to 50 percent

Parent material: Colluvium derived from granite and residuum weathered from granite

Typical vegetation: Forest canopy--Jeffrey pine,

Forest understory--Idaho fescue, mountain big

sagebrush, Columbia needlegrass, bottlebrush

squirreltail, antelope bitterbrush, squawcarpet

Site index: Jeffrey pine--56 at an age base of 100 years

Additional forest note: Dunning site class: IV

Additional forest note: Cactus site index: 40

Typical profile:

Surface rock fragments: About 10 percent boulders

Layer 1--0 to 7 inches; gravelly loamy coarse sand

Layer 2--7 to 18 inches; very gravelly loamy coarse sand

Layer 3--18 to 22 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Permeability class (root zone): Rapid

Available water capacity: About 0.8 inch

Present flooding: None

Present ponding: None

Natural drainage class: Excessively drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Rock outcrop**

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Ridges

Ecological site: None assigned

Mottsville and similar soils

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Fan remnants

Typical vegetation: Mountain big sagebrush, Indian ricegrass, antelope bitterbrush, needleandthread, bottlebrush squirreltail, other shrubs, other perennial grasses, other perennial forbs

Ecological site: R021XE181CA—Granitic fan 12-16

Bonta and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, ponderosa pine, white fir; Forest understory--whitethorn ceanothus, mountain brome, snowbrush ceanothus, needlegrass, antelope bitterbrush, mountain big sagebrush

Ecological site: None assigned

Management

Major uses: Timber production

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

155--Chimney-Janile-Waterman association, 50 to 75 percent slopes**Map Unit Setting**

MLRA: 22

Landscape: Mountains

Elevation: 4,300 to 5,800

Precipitation: 16 to 25 inches

Air temperature: 48 to 50 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Chimney gravelly loamy coarse sand, 50 to 75 percent slopes--40 percent

Janile bouldery loamy coarse sand, 50 to 75 percent slopes, very bouldery--30 percent
 Waterman gravelly loamy coarse sand, 50 to 75 percent slopes, very bouldery--15 percent
 Chimney gravelly loamy coarse sand, 50 to 75 percent slopes, extremely bouldery--8 percent
 Rock outcrop, 50 to 75 percent slopes--7 percent

Component Description

Chimney and similar soils

Landform: Backslopes of mountains
 Slope: 50 to 75 percent, north aspect
 Parent material: Colluvium derived from granite
 Typical vegetation: Forest canopy--California black oak, Jeffrey pine; Forest understory--bottlebrush squirreltail, antelope bitterbrush, Columbia needlegrass, Idaho fescue, squawcarpet, mountain big sagebrush
 Site index: Jeffrey pine--75 at an age base of 100 years
 Additional forest note: Dunning site class: III
 Additional forest note: Cactus site index: 52

Typical profile:

Layer 1--0 to 13 inches; gravelly loamy coarse sand
 Layer 2--13 to 35 inches; gravelly loamy coarse sand
 Layer 3--35 to 60 inches; loamy coarse sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 60 to 80 inches
 Permeability class (root zone): Rapid
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: None assigned

Component Description

Janile and similar soils

Landform: Backslopes of mountains
 Slope: 50 to 75 percent, south aspect
 Parent material: Colluvium derived from granite and residuum weathered from granite
 Typical vegetation: Forest canopy--Jeffrey pine, Forest understory--Columbia needlegrass, bottlebrush squirreltail, Idaho fescue, mountain big sagebrush, antelope bitterbrush
 Site index: Jeffrey pine--74 at an age base of 100 years

Additional forest note: Dunning site class: III
 Additional forest note: Cactus site index: 49

Typical profile:

Surface rock fragments: About 10 percent boulders
 Layer 1--0 to 4 inches; bouldery loamy coarse sand
 Layer 2--4 to 19 inches; very gravelly loamy coarse sand
 Layer 3--19 to 24 inches; extremely gravelly loamy coarse sand
 Layer 4--24 to 34 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Rapid
 Available water capacity: About 1.0 inch
 Present flooding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: None assigned

Component Description

Waterman and similar soils

Landform: Ridges
 Slope: 50 to 75 percent
 Parent material: Colluvium derived from granite and residuum weathered from granite
 Typical vegetation: Forest canopy--Jeffrey pine, Forest understory--mountain big sagebrush, antelope bitterbrush, bottlebrush squirreltail, Columbia needlegrass, squawcarpet, Idaho fescue
 Site index: Jeffrey pine--56 at an age base of 100 years
 Additional forest note: Dunning site class: IV
 Additional forest note: Cactus site index: 40

Typical profile:

Surface rock fragments: About 10 percent boulders
 Layer 1--0 to 7 inches; gravelly loamy coarse sand
 Layer 2--7 to 18 inches; very gravelly loamy coarse sand
 Layer 3--18 to 22 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Permeability class (root zone): Rapid
 Available water capacity: About 0.8 inch
 Present flooding: None
 Natural drainage class: Excessively drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Chimney and similar soils

Composition: 0 to 8 percent
 Slope: 50 to 75 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--California black oak, Jeffrey pine; Forest understory--Idaho fescue, squawcarpet, Columbia needlegrass, bottlebrush squirreltail, antelope bitterbrush, mountain big sagebrush
 Ecological site: None assigned

Rock outcrop

Composition: 0 to 7 percent
 Slope: 50 to 75 percent
 Landform: Ridges
 Ecological site: None assigned

Management

Major uses: Timber production
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

156--Chimney-Waterman association, 9 to 30 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Mountains
 Elevation: 4,300 to 5,000
 Precipitation: 16 to 25 inches
 Air temperature: 48 to 50 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Chimney gravelly loamy coarse sand, 15 to 30 percent slopes--65 percent
 Waterman gravelly loamy coarse sand, 9 to 15 percent slopes--20 percent
 Mottsville loamy coarse sand, 9 to 30 percent slopes--5 percent
 Massack loam, 0 to 2 percent slopes--5 percent
 Calpine sandy loam, 9 to 15 percent slopes--5 percent

Component Description

Chimney and similar soils

Landform: Backslopes of mountains
 Slope: 15 to 30 percent
 Parent material: Colluvium derived from granite
 Typical vegetation: Forest canopy--California black oak, Jeffrey pine; Forest understory--Columbia needlegrass, Idaho fescue, bottlebrush squirreltail, squawcarpet, mountain big sagebrush, antelope bitterbrush
 Site index: Jeffrey pine--75 at an age base of 100 years
 Additional forest note: Dunning site class: III
 Additional forest note: Cactus site index: 52

Typical profile:

Layer 1--0 to 13 inches; gravelly loamy coarse sand
 Layer 2--13 to 35 inches; gravelly loamy coarse sand
 Layer 3--35 to 60 inches; loamy coarse sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 60 to 80 inches
 Permeability class (root zone): Rapid
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Component Description

Waterman and similar soils

Landform: Ridges
 Slope: 9 to 15 percent
 Parent material: Colluvium derived from granite and residuum weathered from granite
 Typical vegetation: Forest canopy--Jeffrey pine, Forest understory--Idaho fescue, Columbia

needlegrass, bottlebrush squirreltail, squawcarpet,
mountain big sagebrush, antelope bitterbrush
Site index: Jeffrey pine--56 at an age base of 100 years
Additional forest note: Dunning site class: IV
Additional forest note: Cactus site index: 40

Typical profile:

Surface rock fragments: About 10 percent boulders
Layer 1--0 to 7 inches; gravelly loamy coarse sand
Layer 2--7 to 18 inches; very gravelly loamy coarse sand
Layer 3--18 to 22 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
Runoff: High
Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
Permeability class (root zone): Rapid
Available water capacity: About 0.8 inch
Present flooding: None
Natural drainage class: Excessively drained

Interpretive Groups

Nonirrigated land capability: 7e
Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Mottsville and similar soils**

Composition: 0 to 5 percent
Slope: 9 to 30 percent
Landform: Fan remnants
Typical vegetation: Other shrubs, mountain big sagebrush, antelope bitterbrush, needleandthread, Indian ricegrass, bottlebrush squirreltail, other perennial forbs, other perennial grasses
Ecological site: R021XE181CA—Granitic fan 12-16

Massack and similar soils

Composition: 0 to 5 percent
Slope: 0 to 2 percent
Landform: Flood plains
Ecological site: None assigned

Calpine and similar soils

Composition: 0 to 5 percent
Slope: 9 to 15 percent
Landform: Alluvial fans

Typical vegetation: Mountain big sagebrush, western needlegrass, beardless wildrye, needleandthread, antelope bitterbrush, Indian ricegrass
Ecological site: R021XE181CA—Granitic fan 12-16

Management

Major uses: Timber production, livestock grazing, urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
"Forest land" section
"Crops and Pasture" section
"Engineering" section
"Soil Properties" section

157--Chirpchatter sandy loam, 2 to 9 percent slopes***Map Unit Setting***

MLRA: 22
Landscape: Fan piedmont
Elevation: 4,300 to 5,000
Precipitation: 16 to 20 inches
Air temperature: 48 to 50 degrees Fahrenheit
Frost-free period: 80 to 100 days

Composition

Chirpchatter sandy loam, 2 to 9 percent slopes--85 percent
Uhalf family very gravelly sandy loam, 5 to 9 percent slopes, extremely stony--8 percent
Gavel family gravelly loam, 5 to 9 percent slopes--7 percent

Component Description**Chirpchatter and similar soils**

Landform: Fan remnant
Slope: 2 to 9 percent
Parent material: Volcanic ash and alluvium derived from mixed rocks
Typical vegetation: Forest canopy--California black oak, Jeffrey pine, ponderosa pine; Forest understory--needlegrass, other perennial grasses, whitethorn ceanothus, greenleaf manzanita
Site index: Jeffrey pine--93 at an age base of 100 years
Additional forest note: Dunning site class: II
Additional forest note: Cactus site index: 59

Typical profile:

Layer 1--0 to 11 inches; sandy loam
Layer 2--11 to 52 inches; sandy clay loam

Layer 3--52 to 65 inches; loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: Medium

Permeability class (root zone): Moderate

Available water capacity: About 8 inches

Present flooding: None

Water table: Present

Interpretive Groups

Nonirrigated land capability: 3e-4

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Uhalf family and similar soils

Composition: 0 to 8 percent

Slope: 5 to 9 percent

Landform: Toeslopes of plateaus

Typical vegetation: Forest canopy--California black oak, Jeffrey pine, ponderosa pine; Forest understory--Idaho fescue, antelope bitterbrush, mountain big sagebrush

Ecological site: None assigned

Gavel family and similar soils

Composition: 0 to 7 percent

Slope: 5 to 9 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--California black oak, Jeffrey pine, ponderosa pine; Forest understory--sedge, Columbia needlegrass, bottlebrush squirreltail, Idaho fescue, curleaf mountain mahogany, mountain big sagebrush

Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing, urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Forest land" section

"Engineering" section

"Soil Properties" section

158--Cleghorn sandy loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Fan piedmont

Elevation: 4,300 to 5,350

Precipitation: 12 to 14 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Cleghorn sandy loam, 0 to 2 percent slopes--90 percent

Dryvalley silt loam, 0 to 2 percent slopes--3 percent

Corral sandy loam, 0 to 2 percent slopes--3 percent

Smocreek silty clay loam, 0 to 2 percent slopes--2 percent

Indiano gravelly sandy loam, 2 to 5 percent slopes--2 percent

Component Description

Cleghorn and similar soils

Landform: Fan remnant

Slope: 0 to 2 percent

Parent material: Alluvium derived from volcanic rock

Typical vegetation: Thurber needlegrass, beardless wildrye, basin wildrye, basin big sagebrush, needleandthread

Typical profile:

Layer 1--0 to 7 inches; sandy loam

Layer 2--7 to 15 inches; clay loam

Layer 3--15 to 19 inches; loam

Layer 4--19 to 34 inches; sandy loam

Layer 5--34 to 60 inches; loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Available water capacity: About 8 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 4e-1

Nonirrigated land capability: 4e-1

Ecological site: R021XE195CA—Sandy loam terrace 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Dryvalley and similar soils**

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Big sagebrush, littleleaf horsebrush,
rubber rabbitbrush, Nevada bluegrass

Ecological site: R021XE177CA—Silty flat 12-16

Corral and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Rock pediment

Typical vegetation: Needleandthread, basin wildrye, big
sagebrushEcological site: R021XE195CA—Sandy loam terrace 12-
16**Smocreek and similar soils**

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Stream terraces

Typical vegetation: Basin big sagebrush, basin wildrye

Ecological site: R023XF088CA—Loamy bottom 9-16

Indiano and similar soils

Composition: 0 to 2 percent

Slope: 2 to 5 percent

Landform: Summits of plateaus

Typical vegetation: Big sagebrush, bluebunch wheatgrass,
Thurber needlegrass, antelope bitterbrush, green
ephedra, basin wildrye

Ecological site: R021XE176CA—Loam 12-16

ManagementMajor uses: Irrigated crops, alfalfa hay, and livestock
grazingFor information about managing this map unit, see the
following sections and associated tables in Part II of
this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

**159--Cleghorn sandy loam, 2 to 5 percent
slopes****Map Unit Setting**

MLRA: 23

Landscape: Fan piedmont

Elevation: 4,000 to 4,600

Precipitation: 9 to 12 inches

Air temperature: 46 to 49 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Cleghorn sandy loam, 2 to 5 percent slopes--85 percent

Ragtown loam, 0 to 2 percent slopes--5 percent

Robert sandy loam, 2 to 5 percent slopes--5 percent

Ravendale silty clay, 0 to 2 percent slopes--5 percent

Component Description**Cleghorn and similar soils**

Landform: Fan remnant

Slope: 2 to 5 percent

Parent material: Alluvium derived from volcanic rock

Typical vegetation: Wyoming big sagebrush, basin
wildrye, needleandthread, Thurber needlegrass**Typical profile:**

Layer 1--0 to 7 inches; sandy loam

Layer 2--7 to 15 inches; clay loam

Layer 3--15 to 19 inches; loam

Layer 4--19 to 34 inches; sandy loam

Layer 5--34 to 60 inches; loam

See "Chemical Properties of Soils" table and the "Physical
Properties of Soils" table for more information.**Component Properties and Qualities**

Runoff: High

Permeability class (root zone): Slow

Available water capacity: About 8 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3e-1

Nonirrigated land capability: 6e

Ecological site: R023XF091CA—Loamy upland 9-12

Typical soil descriptions including ranges in characteristics
are in the "Classification of the Soils" section.**Contrasting Inclusions****Ragtown and similar soils**

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Shadscale, basin wildrye, spiny
hopsage, black greasewood, bottlebrush squirreltail

Ecological site: R023XG047CA—Sodic terrace 6-9

Robert and similar soils

Composition: 0 to 5 percent

Slope: 2 to 5 percent

Landform: Stream terraces

Typical vegetation: Basin big sagebrush, rabbitbrush,
inland saltgrass, basin wildrye, black greasewood

Ecological site: R023XG059CA

Ravendale and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Basin floors

Typical vegetation: Western wheatgrass, silver sagebrush, beardless wildrye, Nevada bluegrass

Ecological site: R023XF092CA—Clay floodplain 9-16

Management

Major uses: Irrigated crops, alfalfa hay, and livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

160--Cochran gravelly loam, 2 to 15 percent slopes**Map Unit Setting**

MLRA: 21

Landscape: Lake plain

Elevation: 5,400 to 5,450

Precipitation: 12 to 14 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Cochran gravelly loam, 2 to 15 percent slopes--85 percent

Devada very cobbly loam, 2 to 15 percent slopes--8 percent

Puls very cobbly loam, 2 to 9 percent slopes--7 percent

Component Description**Cochran and similar soils**

Landform: Lake terraces

Slope: 2 to 15 percent

Parent material: Alluvium derived from volcanic rock

Typical vegetation: Mountain big sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, needlegrass

Typical profile:

Layer 1--0 to 11 inches; gravelly loam

Layer 2--11 to 31 inches; extremely cobbly clay loam

Layer 3--31 to 60 inches; stratified extremely cobbly loamy coarse sand to extremely gravelly loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Permeability class (root zone): Slow

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R021XE044CA--Cool loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Devada and similar soils**

Composition: 0 to 8 percent

Slope: 2 to 15 percent

Landform: Ridges

Typical vegetation: Bluebunch wheatgrass, low sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, Thurber needlegrass

Ecological site: R021XE173CA--Shallow stony loam 12-16

Puls and similar soils

Composition: 0 to 7 percent

Slope: 2 to 9 percent

Landform: Plateaus

Typical vegetation: Bluebunch wheatgrass, low sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, Thurber needlegrass

Ecological site: R021XE173CA--Shallow stony loam 12-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

161--Cochran very cobbly loam, 5 to 15 percent slopes**Map Unit Setting**

MLRA: 21

Landscape: Lake plain

Elevation: 5,300 to 5,450

Precipitation: 12 to 14 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Cochran very cobbly loam, 5 to 15 percent slopes--90 percent
 Orhood very stony loam, 5 to 15 percent slopes--4 percent
 Cochran family very cobbly loam, 9 to 15 percent slopes--3 percent
 McConnel family gravelly fine sandy loam, 5 to 15 percent slopes--3 percent

Component Description**Cochran and similar soils**

Landform: Lake terraces
 Slope: 5 to 15 percent
 Parent material: Alluvium derived from volcanic rock
 Typical vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, needlegrass

Typical profile:

Surface rock fragments: About 3 percent stones, 20 percent cobbles
 Layer 1--0 to 11 inches; very cobbly loam
 Layer 2--11 to 31 inches; very gravelly clay
 Layer 3--31 to 60 inches; stratified extremely cobbly loamy coarse sand to extremely gravelly loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Permeability class (root zone): Slow
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE174CA--Stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Orhood and similar soils**

Composition: 0 to 4 percent
 Slope: 5 to 15 percent
 Landform: Ridges
 Typical vegetation: Forest canopy--western juniper, Forest understory--bluebunch wheatgrass, mountain big sagebrush, rabbitbrush, Lemmon needlegrass, Idaho fescue, antelope bitterbrush, Sandberg bluegrass, arrowleaf balsamroot, Thurber needlegrass
 Ecological site: R021XE174CA

Cochran family and similar soils

Composition: 0 to 3 percent
 Slope: 9 to 15 percent
 Landform: Lake terraces
 Typical vegetation: Bluebunch wheatgrass, needlegrass, antelope bitterbrush, mountain big sagebrush, Idaho fescue
 Ecological site: R021XE174CA--Stony loam 12-16

McConnel family and similar soils

Composition: 0 to 3 percent
 Slope: 5 to 15 percent
 Landform: Fan remnants
 Typical vegetation: Indian ricegrass, needleandthread, globemallow, bottlebrush squirreltail, Sandberg bluegrass, Wyoming big sagebrush
 Ecological site: R023XG054CA--Sandy terrace 6-9

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

162--Corral sandy loam, 0 to 2 percent slopes**Map Unit Setting**

MLRA: 21
 Landscape: Fan piedmont
 Elevation: 5,300 to 5,350
 Precipitation: 10 to 12 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Corral sandy loam, 0 to 2 percent slopes--85 percent
 Capona fine sandy loam, 0 to 2 percent slopes--8 percent
 Cleghorn sandy loam, 0 to 2 percent slopes--7 percent

Component Description**Corral and similar soils**

Landform: Rock pediments
 Slope: 0 to 2 percent
 Parent material: Colluvium derived from tuff and residuum weathered from tuff

Typical vegetation: Big sagebrush, basin wildrye, needleandthread

Typical profile:

Layer 1--0 to 6 inches; sandy loam

Layer 2--6 to 19 inches; sandy clay loam

Layer 3--19 to 23 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 15 to 20 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 4s-1

Ecological site: R021XE195CA--Sandy loam terrace 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Capona and similar soils

Composition: 0 to 8 percent

Slope: 0 to 2 percent

Landform: Plateaus

Typical vegetation: Bluebunch wheatgrass, big sagebrush, Idaho fescue, antelope bitterbrush, needlegrass

Ecological site: R021XE176CA--Loam 12-16

Cleghorn and similar soils

Composition: 0 to 7 percent

Slope: 0 to 2 percent

Landform: Fan remnants

Typical vegetation: Basin big sagebrush, basin wildrye, beardless wildrye, needleandthread, Thurber needlegrass

Ecological site: R021XE195CA--Sandy loam terrace 12-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

163--Corral sandy loam, 2 to 5 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Fan piedmonts

Elevation: 4,440 to 5,300

Precipitation: 10 to 12 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 60 to 130 days

Composition

Corral sandy loam, 2 to 5 percent slopes--85 percent

Capona fine sandy loam, 2 to 5 percent slopes--8 percent

Cleghorn sandy loam, 2 to 5 percent slopes--7 percent

Component Description

Corral and similar soils

Landform: Rock pediments

Slope: 2 to 5 percent

Parent material: Colluvium derived from tuff and residuum weathered from tuff

Typical vegetation: Needleandthread, big sagebrush, basin wildrye

Typical profile:

Layer 1--0 to 6 inches; sandy loam

Layer 2--6 to 19 inches; sandy clay loam

Layer 3--19 to 23 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 15 to 20 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R021XE195CA--Sandy loam terrace 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Capona and similar soils

Composition: 0 to 8 percent

Slope: 2 to 5 percent

Landform: Plateaus

Typical vegetation: Bluebunch wheatgrass, big sagebrush, Idaho fescue, antelope bitterbrush, needlegrass

Ecological site: R021XE176CA--Loam 12-16

Cleghorn and similar soils

Composition: 0 to 7 percent

Slope: 2 to 5 percent

Landform: Fan remnants

Typical vegetation: Basin big sagebrush, basin wildrye, beardless wildrye, needleandthread, Thurber needlegrass

Ecological site: R021XE195CA--Sandy loam terrace 12-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

164--Corral sandy loam, 5 to 15 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Fan piedmont

Elevation: 4,400 to 5,400

Precipitation: 9 to 12 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Corral sandy loam, 5 to 15 percent slopes--90 percent

Shinnpeak very cobbly sandy loam, 5 to 15 percent slopes--3 percent

Hunnton cobbly sandy loam, 2 to 9 percent slopes--3 percent

Lodico very cobbly silt loam, 5 to 9 percent slopes--2 percent

Rock outcrop, 9 to 15 percent slopes--1 percent

Chalco family gravelly fine sandy loam, 9 to 15 percent slopes--1 percent

Component Description

Corral and similar soils

Landform: Rock pediments

Slope: 5 to 15 percent

Parent material: Colluvium derived from tuff and residuum weathered from tuff

Typical vegetation: Big sagebrush, Thurber needlegrass, basin wildrye, needleandthread

Typical profile:

Layer 1--0 to 4 inches; sandy loam

Layer 2--4 to 12 inches; sandy clay loam

Layer 3--12 to 16 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 12 to 20 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XF091CA--Loamy upland 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Shinnpeak and similar soils

Composition: 0 to 3 percent

Slope: 5 to 15 percent

Landform: Fan remnants

Typical vegetation: Bottlebrush squirreltail, other perennial forbs, other perennial grasses, bluebunch wheatgrass, black sagebrush, Sandberg bluegrass, other shrubs, Thurber needlegrass

Ecological site: R023XF087CA--Very shallow stony loam 9-12

Hunnton and similar soils

Composition: 0 to 3 percent

Slope: 2 to 9 percent

Landform: Fan remnants

Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, Wyoming big sagebrush, basin wildrye, other perennial forbs, other perennial grasses, antelope bitterbrush, other shrubs

Ecological site: R023XF082CA--Stony loam 9-12

Lodico and similar soils

Composition: 0 to 2 percent

Slope: 5 to 9 percent

Landform: Plateaus

Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, low sagebrush, antelope bitterbrush

Ecological site: R023XF081CA--Shallow stony loam 9-12

Rock outcrop

Composition: 0 to 1 percent
 Slope: 9 to 15 percent
 Landform: Escarpments, knolls
 Ecological site: None assigned

Chalco family and similar soils

Composition: 0 to 1 percent
 Slope: 9 to 15 percent
 Landform: Backslopes of rock pediments, summits of rock pediments
 Typical vegetation: Thurber needlegrass, low sagebrush, bluegrass, bluebunch wheatgrass
 Ecological site: R023XF081CA--Shallow stony loam 9-12

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

165--Corral loam, 30 to 50 percent slopes**Map Unit Setting**

MLRA: 23
 Landscape: Plateau
 Elevation: 4,400 to 4,800
 Precipitation: 9 to 12 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Corral loam, 30 to 50 percent slopes--85 percent
 Springmeyer loam, 2 to 5 percent slopes--5 percent
 Longcreek very cobbly loam, 30 to 50 percent slopes--5 percent
 Rock outcrop, 30 to 50 percent slopes--3 percent
 Gullied land, 30 to 50 percent slopes--2 percent

Component Description**Corral and similar soils**

Landform: Escarpments
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from tuff and residuum weathered from tuff
 Typical vegetation: Thurber needlegrass, big sagebrush, basin wildrye, needleandthread

Typical profile:

Layer 1--0 to 4 inches; loam
 Layer 2--4 to 12 inches; sandy clay loam
 Layer 3--12 to 16 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 12 to 20 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XF091CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Springmeyer and similar soils**

Composition: 0 to 5 percent
 Slope: 2 to 5 percent
 Landform: Fans, terraces
 Typical vegetation: Needleandthread, big sagebrush, Thurber needlegrass, basin wildrye
 Ecological site: R023XF091CA--Loamy upland 9-12

Longcreek and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Mountains
 Typical vegetation: Antelope bitterbrush, mountain big sagebrush, basin wildrye, Thurber needlegrass, bluebunch wheatgrass
 Ecological site: R023XF082CA--Stony loam 9-12

Rock outcrop

Composition: 0 to 3 percent
 Slope: 30 to 50 percent
 Landform: Plateaus
 Ecological site: None assigned

Gullied land

Composition: 0 to 2 percent
 Slope: 30 to 50 percent
 Landform: Plateaus
 Ecological site: None assigned

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

166--Corral very cobbly loam, 5 to 30 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Fan piedmont

Elevation: 4,400 to 5,400

Precipitation: 9 to 12 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Corral very cobbly loam, 5 to 30 percent slopes--85 percent

Rock outcrop, 15 to 30 percent slopes--5 percent

Shinnpeak very cobbly loam, 5 to 15 percent slopes--5 percent

Chalco gravelly fine sandy loam, 5 to 9 percent slopes--5 percent

Component Description**Corral and similar soils**

Landform: Rock pediments

Slope: 5 to 30 percent

Parent material: Colluvium derived from tuff and residuum weathered from tuff

Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, big sagebrush, basin wildrye

Typical profile:

Surface rock fragments: About 20 percent cobbles, 5 percent stones

Layer 1--0 to 4 inches; very cobbly loam

Layer 2--4 to 12 inches; sandy clay loam

Layer 3--12 to 22 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 12 to 20 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 1.0 inch

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XF082CA--Stony loam 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Rock outcrop**

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Escarpments

Ecological site: None assigned

Shinnpeak and similar soils

Composition: 0 to 5 percent

Slope: 5 to 15 percent

Landform: Fan remnants

Typical vegetation: Black sagebrush, Sandberg bluegrass, other perennial forbs, other perennial grasses, bottlebrush squirreltail, other shrubs, Thurber needlegrass, bluebunch wheatgrass

Ecological site: R023XF087CA--Very shallow stony loam 9-12

Chalco and similar soils

Composition: 0 to 5 percent

Slope: 5 to 9 percent

Landform: Backslopes of rock pediments, summits of rock pediments

Typical vegetation: Indian ricegrass, Webber needlegrass, Lahontan sagebrush, spiny hopsage, Thurber needlegrass

Ecological site: R023XF083CA--Shallow stony clay loam 9-12

Management

Major uses: Livestock grazing, wildlife habitat, watershed and recreation

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

167--Corral-Chalco complex, 0 to 2 percent slopes**Map Unit Setting**

MLRA: 21

Landscape: Fan piedmont
 Elevation: 5,300 to 5,350
 Precipitation: 10 to 12 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Corral sandy loam, 0 to 2 percent slopes--50 percent
 Chalco gravelly fine sandy loam, 0 to 2 percent slopes--35 percent
 Dryvalley silt loam, 0 to 2 percent slopes--8 percent
 Hagata silt loam, 0 to 2 percent slopes--7 percent

Component Description

Corral and similar soils

Landform: Rock pediments
 Slope: 0 to 2 percent
 Parent material: Colluvium derived from tuff and residuum weathered from tuff
 Typical vegetation: Big sagebrush, basin wildrye, needleandthread

Typical profile:

Layer 1--0 to 6 inches; sandy loam
 Layer 2--6 to 19 inches; sandy clay loam
 Layer 3--19 to 23 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 15 to 20 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 4s-1
 Ecological site: R021XE195CA--Sandy loam terrace 12-16

Component Description

Chalco and similar soils

Landform: Rock pediments
 Slope: 0 to 2 percent
 Parent material: Colluvium derived from tuff and residuum weathered from tuff
 Typical vegetation: Low sagebrush, Sandberg bluegrass, other perennial grasses, bottlebrush squirreltail, Thurber needlegrass, littleleaf horsebrush

Typical profile:

Layer 1--0 to 4 inches; gravelly fine sandy loam
 Layer 2--4 to 15 inches; clay

Layer 3--15 to 19 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches
 Permeability class (root zone): Very slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R021XE184CA--Shallow loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Dryvalley and similar soils

Composition: 0 to 8 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Big sagebrush, rubber rabbitbrush, littleleaf horsebrush, Nevada bluegrass
 Ecological site: R021XE177CA--Silty flat 12-16

Hagata and similar soils

Composition: 0 to 7 percent
 Slope: 0 to 2 percent
 Landform: Fan remnants
 Typical vegetation: Eriogonum, low sagebrush, bluegrass, Nevada bluegrass, bottlebrush squirreltail, Thurber needlegrass, Idaho fescue
 Ecological site: R021XE184CA--Shallow loam 12-16

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

168--Corral-Glenbrook complex, 15 to 50 percent slopes

Map Unit Setting

MLRA: 26

Landscape: Fan piedmont
 Elevation: 4,400 to 5,400
 Precipitation: 10 to 12 inches
 Air temperature: 48 to 50 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Corral loam, 15 to 50 percent slopes--60 percent
 Glenbrook gravelly loamy coarse sand, 15 to 50 percent slopes--20 percent
 Calpine sandy loam, 9 to 15 percent slopes--8 percent
 Galeppi loamy sand, 15 to 50 percent slopes--7 percent
 Glenbrook gravelly loamy coarse sand, 15 to 50 percent slopes, very bouldery--5 percent

Component Description

Corral and similar soils

Landform: Backslopes of rock pediments
 Slope: 15 to 50 percent
 Parent material: Colluvium derived from tuff and residuum weathered from tuff
 Typical vegetation: Thurber needlegrass, big sagebrush, basin wildrye, needleandthread

Typical profile:

Layer 1--0 to 4 inches; loam
 Layer 2--4 to 12 inches; sandy clay loam
 Layer 3--12 to 16 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 12 to 20 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XF091CA--Loamy upland 9-12

Component Description

Glenbrook and similar soils

Landform: Backslopes of mountains
 Slope: 15 to 50 percent
 Parent material: Residuum weathered from granite
 Typical vegetation: Green ephedra, big sagebrush, yellow rabbitbrush, other perennial forbs, other perennial

grasses, antelope bitterbrush, bottlebrush squirreltail, other shrubs, desert needlegrass, Thurber needlegrass

Typical profile:

Layer 1--0 to 3 inches; gravelly loamy coarse sand
 Layer 2--3 to 12 inches; gravelly loamy coarse sand
 Layer 3--12 to 16 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low
 Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches
 Permeability class (root zone): Rapid
 Available water capacity: About 0.7 inch
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R026XF053CA--Shallow granitic upland 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Calpine and similar soils

Composition: 0 to 8 percent
 Slope: 9 to 15 percent
 Landform: Alluvial fans
 Typical vegetation: Beardless wildrye, Indian ricegrass, antelope bitterbrush, needleandthread, western needlegrass, mountain big sagebrush
 Ecological site: R021XE181CA--Granitic fan 12-16

Galeppi and similar soils

Composition: 0 to 7 percent
 Slope: 15 to 50 percent
 Landform: Fan remnants
 Typical vegetation: Bluebunch wheatgrass, Wyoming big sagebrush, green ephedra, Anderson peachbrush, antelope bitterbrush, needlegrass
 Ecological site: R026XF052CA--Granitic upland 9-12

Glenbrook and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Yellow rabbitbrush, big sagebrush, other perennial forbs, other perennial grasses, antelope bitterbrush, bottlebrush squirreltail, other

shrubs, desert needlegrass, Thurber needlegrass,
green ephedra

Ecological site: R026XF053CA--Shallow granitic upland 9-12

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

169--Devada-Brubeck association, 2 to 9 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Plateaus

Elevation: 4,400 to 5,600

Precipitation: 10 to 12 inches

Air temperature: 45 to 47 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Devada very stony loam, 2 to 9 percent slopes--50 percent

Brubeck very cobbly clay, 2 to 9 percent slopes--45 percent

Devada very stony loam, 2 to 9 percent slopes--5 percent

Component Description

Devada and similar soils

Landform: Plateaus

Slope: 2 to 9 percent

Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite

Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, low sagebrush, bluegrass

Typical profile:

Surface rock fragments: About 25 percent cobbles, 20 percent stones

Layer 1--0 to 4 inches; very stony loam

Layer 2--4 to 13 inches; gravelly clay

Layer 3--13 to 17 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XF081CA--Shallow stony loam 9-12

Component Description

Brubeck and similar soils

Landform: Plateaus

Slope: 2 to 9 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bottlebrush squirreltail, western wheatgrass, big sagebrush, rubber rabbitbrush, beardless wildrye, Thurber needlegrass, littleleaf horsebrush

Typical profile:

Surface rock fragments: About 30 percent cobbles, 10 percent stones

Layer 1--0 to 2 inches; very cobbly clay

Layer 2--2 to 32 inches; clay

Layer 3--32 to 42 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 5 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XF084CA--Clay upland 9-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada and similar soils

Composition: 0 to 5 percent

Slope: 2 to 9 percent, south aspect

Landform: Backslopes of mountains, ridges

Typical vegetation: Thurber needlegrass, bluegrass, bluebunch wheatgrass, low sagebrush

Ecological site: R023XF081CA--Shallow stony loam 9-12

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

170--Devada-Bucklake association, 2 to 30 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Mountains

Elevation: 5,000 to 5,400

Precipitation: 10 to 12 inches

Air temperature: 45 to 47 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Devada very stony loam, 2 to 30 percent slopes--35 percent

Bucklake very stony loam, 9 to 30 percent slopes--35 percent

Brubeck very cobbly clay, 15 to 30 percent slopes--8 percent

Fivesprings very stony loam, 15 to 30 percent slopes--7 percent

Orhood very stony loam, 9 to 30 percent slopes--4 percent

Gerlach silty clay, 2 to 9 percent slopes--4 percent

Searles very stony loam, 9 to 30 percent slopes--3 percent

Rock outcrop, 15 to 30 percent slopes--4 percent

Component Description

Devada and similar soils

Landform: Mountains

Slope: 2 to 30 percent

Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite

Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, low sagebrush, bluegrass

Typical profile:

Surface rock fragments: About 15 percent cobbles, 20 percent stones

Layer 1--0 to 4 inches; very stony loam

Layer 2--4 to 13 inches; gravelly clay

Layer 3--13 to 23 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XF081CA--Shallow stony loam 9-12

Component Description

Bucklake and similar soils

Landform: Backslopes of mountains

Slope: 9 to 30 percent

Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite

Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, mountain big sagebrush, rabbitbrush, basin wildrye, antelope bitterbrush

Typical profile:

Surface rock fragments: About 15 percent cobbles, 20 percent stones

Layer 1--0 to 8 inches; very stony loam

Layer 2--8 to 12 inches; gravelly clay loam

Layer 3--12 to 24 inches; gravelly clay

Layer 4--24 to 34 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XF082CA--Stony loam 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Brubeck and similar soils

Composition: 0 to 8 percent

Slope: 15 to 30 percent

Landform: Plateaus

Typical vegetation: Big sagebrush, rubber rabbitbrush, beardless wildrye, bottlebrush squirreltail, Thurber needlegrass, littleleaf horsebrush, western wheatgrass
Ecological site: R023XF084CA--Clay upland 9-16

Fivesprings and similar soils

Composition: 0 to 7 percent
Slope: 15 to 30 percent, north aspect
Landform: Backslopes of mountains
Typical vegetation: Mountain big sagebrush, basin wildrye, bluebunch wheatgrass, Thurber needlegrass, antelope bitterbrush
Ecological site: R023XF082CA--Stony loam 9-12

Orhood and similar soils

Composition: 0 to 4 percent
Slope: 9 to 30 percent
Landform: Ridges
Typical vegetation: Forest canopy--western juniper, Forest understory--rabbitbrush, Idaho fescue, antelope bitterbrush, Thurber needlegrass, bluebunch wheatgrass, Lemmon needlegrass, mountain big sagebrush, arrowleaf balsamroot, Sandberg bluegrass
Ecological site: R021XE174CA--Stony loam 12-16

Gerlach and similar soils

Composition: 0 to 4 percent
Slope: 2 to 9 percent
Landform: Alluvial flats
Typical vegetation: Western wheatgrass, big sagebrush, rubber rabbitbrush, beardless wildrye, bottlebrush squirreltail, Thurber needlegrass, littleleaf horsebrush
Ecological site: R023XF084CA--Clay upland 9-16

Rock outcrop

Composition: 0 to 4 percent
Slope: 15 to 30 percent
Landform: Mountains
Ecological site: None assigned

Searles and similar soils

Composition: 0 to 3 percent
Slope: 9 to 30 percent, south aspect
Landform: Backslopes of mountains
Typical vegetation: Thurber needlegrass, mountain big sagebrush, bluebunch wheatgrass, antelope bitterbrush
Ecological site: R021XE179CA--Warm stony loam 12-16

Management

Major uses: Livestock grazing
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section

"Forest land" section
"Crops and Pasture" section
"Engineering" section
"Soil Properties" section

171--Devada-Fivesprings-Rubble land association, 9 to 50 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Mountains
Elevation: 5,000 to 5,400
Precipitation: 10 to 12 inches
Air temperature: 45 to 47 degrees Fahrenheit
Frost-free period: 80 to 100 days

Composition

Devada very stony loam, 9 to 50 percent slopes--40 percent
Fivesprings very stony loam, 30 to 50 percent slopes--25 percent
Rubble land fragmental material, 15 to 50 percent slopes--20 percent
Loomis very cobbly loam, 15 to 30 percent slopes--8 percent
Searles very stony loam, 15 to 50 percent slopes--7 percent

Component Description

Devada and similar soils

Landform: Backslopes of mountains, ridges
Slope: 9 to 50 percent, south aspect
Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite
Typical vegetation: Bluebunch wheatgrass, Thurber needlegrass, low sagebrush, bluegrass

Typical profile:

Surface rock fragments: About 15 percent cobbles, 20 percent stones
Layer 1--0 to 4 inches; very stony loam
Layer 2--4 to 13 inches; gravelly clay
Layer 3--13 to 23 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Duripan: 12 to 20 inches
Permeability class (root zone): Slow
Available water capacity: About 2 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XF081CA--Shallow stony loam 9-12

Component Description**Fivesprings and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 50 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, basin wildrye, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 15 percent cobbles, 20 percent stones

Layer 1--0 to 3 inches; very stony loam

Layer 2--3 to 8 inches; very gravelly clay loam

Layer 3--8 to 23 inches; very gravelly clay

Layer 4--23 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XF082CA--Stony loam 9-12

Component Description**Rubble land**

Landform: Mountains

Slope: 15 to 50 percent

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Loomis and similar soils**

Composition: 0 to 8 percent

Slope: 15 to 30 percent

Landform: Backslopes of plateaus

Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, black sagebrush, Sandberg bluegrass, bottlebrush squirreltail

Ecological site: R023XF087CA--Very shallow stony loam 9-12

Searles and similar soils

Composition: 0 to 7 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, Thurber needlegrass

Ecological site: R021XE179CA--Warm stony loam 12-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

172--Devada-Gavel complex, 9 to 30 percent slopes**Map Unit Setting**

MLRA: 22

Landscape: Mountains

Elevation: 5,200 to 6,200

Precipitation: 20 to 25 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Devada extremely stony loam, 9 to 30 percent slopes--60 percent

Gavel gravelly loam, 9 to 30 percent slopes--35 percent

Uhalf very gravelly loam, 9 to 30 percent slopes--5 percent

Component Description**Devada and similar soils**

Landform: Ridges

Slope: 9 to 30 percent

Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite

Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, low sagebrush, Idaho fescue, bluegrass, antelope bitterbrush

Additional forest note: Dunning site class: IV

Additional forest note: Cactus site index: 50

Typical profile:

Surface rock fragments: About 25 percent cobbles, 35 percent stones

Layer 1--0 to 7 inches; extremely stony loam

Layer 2--7 to 15 inches; gravelly clay

Layer 3--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE173CA--Shallow stony loam 12-16

Component Description

Gavel and similar soils

Landform: Backslopes of mountains

Slope: 9 to 30 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, western juniper; Forest understory--mountain big sagebrush, Columbia needlegrass, sedge, Idaho fescue, bottlebrush squirreltail, curlleaf mountain mahogany

Site index: Jeffrey pine--71 at an age base of 100 years

Typical profile:

Surface rock fragments: About 10 percent cobbles, 3 percent stones

Layer 1--0 to 4 inches; gravelly loam

Layer 2--4 to 27 inches; very gravelly loam

Layer 3--27 to 70 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Uhalf and similar soils

Composition: 0 to 5 percent

Slope: 9 to 30 percent

Landform: Toeslopes of mountains

Typical vegetation: Forest canopy--Douglas fir, ponderosa pine, white fir; Forest understory--whitethorn ceanothus, snowbrush ceanothus, mountain brome, needlegrass, greenleaf manzanita

Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

173--Devada-Gavel-Whitinger association, 5 to 30 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 4,800 to 5,200

Precipitation: 12 to 14 inches

Air temperature: 45 to 46 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Devada very stony loam, 5 to 15 percent slopes--40 percent

Gavel gravelly loam, 15 to 30 percent slopes--25 percent

Whitinger very stony loam, 5 to 30 percent slopes--15 percent

Rubble land, 5 to 30 percent slopes--4 percent

Rock outcrop, 5 to 30 percent slopes--4 percent

Petescreek gravelly loam, 15 to 30 percent slopes--4 percent

Orhood very stony loam, 15 to 30 percent slopes--4 percent

Bucklake very stony loam, 15 to 30 percent slopes--4 percent

Component Description

Devada and similar soils

Landform: Mountains

Slope: 5 to 15 percent

Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite

Typical vegetation: Bluebunch wheatgrass, low sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, Thurber needlegrass

Additional forest note: Dunning site class: IV

Additional forest note: Cactus site index: 50

Typical profile:

Surface rock fragments: About 10 percent cobbles, 20 percent stones

Layer 1--0 to 7 inches; very stony loam

Layer 2--7 to 15 inches; gravelly clay

Layer 3--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE173CA--Shallow stony loam 12-16

Component Description

Gavel and similar soils

Landform: Backslopes of mountains

Slope: 15 to 30 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, western juniper; Forest understory--Idaho fescue, mountain big sagebrush, Columbia needlegrass, bottlebrush squirreltail, curleaf mountain mahogany, sedge

Site index: Jeffrey pine--71 at an age base of 100 years

Typical profile:

Surface rock fragments: About 3 percent stones, 10 percent cobbles

Layer 1--0 to 4 inches; gravelly loam

Layer 2--4 to 27 inches; very gravelly loam

Layer 3--27 to 70 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: None assigned

Component Description

Whitinger and similar soils

Landform: Backslopes of mountains

Slope: 5 to 30 percent

Parent material: Colluvium derived from basalt and residuum weathered from basalt

Typical vegetation: Forest canopy--western juniper, Forest understory--bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, needlegrass

Site index: Western juniper--25 at an age base of 50 years

Typical profile:

Surface rock fragments: About 20 percent cobbles, 12 percent stones

Layer 1--0 to 6 inches; very stony loam

Layer 2--6 to 15 inches; very stony clay loam

Layer 3--15 to 26 inches; very cobbly clay loam

Layer 4--26 to 36 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R021XE174CA--Stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Rubble land**

Composition: 0 to 4 percent

Slope: 5 to 30 percent

Landform: Mountains

Ecological site: None assigned

Rock outcrop

Composition: 0 to 4 percent

Slope: 5 to 30 percent

Landform: Mountains

Ecological site: None assigned

Petescreek and similar soils

Composition: 0 to 4 percent

Slope: 15 to 30 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Mountain big sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, needlegrass

Ecological site: R021XE044CA

Orhood and similar soils

Composition: 0 to 4 percent

Slope: 15 to 30 percent

Landform: Ridges

Typical vegetation: Forest canopy--western juniper, Forest understory--Idaho fescue, arrowleaf balsamroot, mountain big sagebrush, rabbitbrush, Thurber needlegrass, bluebunch wheatgrass, Sandberg bluegrass, Lemmon needlegrass, antelope bitterbrush

Ecological site: R021XE174CA--Stony loam 12-16

Bucklake and similar soils

Composition: 0 to 4 percent

Slope: 15 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Antelope bitterbrush, basin wildrye, rabbitbrush, mountain big sagebrush, bluebunch wheatgrass, Thurber needlegrass

Ecological site: R023XF082CA--Stony loam 9-12

Management

Major uses: Timber production, livestock grazing, juniper wood products

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

174--Devada-Glean-Sumine association, 30 to 50 percent slopes***Map Unit Setting***

MLRA: 21

Landscape: Mountains

Elevation: 5,000 to 6,000

Precipitation: 10 to 14 inches

Air temperature: 45 to 46 degrees Fahrenheit

Frost-free period: 70 to 80 days

Composition

Devada very stony loam, 30 to 50 percent slopes--35 percent

Glean very gravelly loam, 30 to 50 percent slopes--30 percent

Sumine very stony loam, 30 to 50 percent slopes--20 percent

Orhood very stony loam, 30 to 50 percent slopes--5 percent

Longcreek extremely stony loam, 30 to 50 percent slopes--5 percent

Alomax very stony sandy loam, 30 to 50 percent slopes--5 percent

Component Description**Devada and similar soils**

Landform: Backslopes of mountains, ridges

Slope: 30 to 50 percent, south aspect

Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite

Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, low sagebrush, bluegrass

Typical profile:

Surface rock fragments: About 20 percent stones, 15 percent cobbles

Layer 1--0 to 4 inches; very stony loam

Layer 2--4 to 13 inches; gravelly clay

Layer 3--13 to 23 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
Ecological site: R023XF081CA--Shallow stony loam 9-12

Component Description

Glean and similar soils

Landform: Backslopes of mountains
Slope: 30 to 50 percent, north aspect
Parent material: Colluvium derived from volcanic rock
Typical vegetation: Needlegrass, bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush

Typical profile:

Layer 1--0 to 3 inches; very gravelly loam
Layer 2--3 to 44 inches; very gravelly loam
Layer 3--44 to 48 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches
Permeability class (root zone): Moderately rapid
Available water capacity: About 4 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
Ecological site: R021XE176CA

Component Description

Sumine and similar soils

Landform: Backslopes of mountains
Slope: 30 to 50 percent, north aspect
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, basin wildrye, Idaho fescue, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 5 percent stones, 20 percent cobbles
Layer 1--0 to 10 inches; very stony loam
Layer 2--10 to 34 inches; very cobbly clay loam
Layer 3--34 to 38 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
Permeability class (root zone): Moderate
Available water capacity: About 4 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
Ecological site: R021XE174CA--Stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Orhood and similar soils

Composition: 0 to 5 percent
Slope: 30 to 50 percent
Landform: Ridges
Typical vegetation: Forest canopy--western juniper, Forest understory--Thurber needlegrass, rabbitbrush, mountain big sagebrush, arrowleaf balsamroot, antelope bitterbrush, Sandberg bluegrass, bluebunch wheatgrass, Lemmon needlegrass, Idaho fescue
Ecological site: R021XE174CA--Stony loam 12-16

Longcreek and similar soils

Composition: 0 to 5 percent
Slope: 30 to 50 percent
Landform: Mountains
Typical vegetation: Basin wildrye, bluebunch wheatgrass, mountain big sagebrush, Thurber needlegrass, antelope bitterbrush
Ecological site: R023XF082CA--Stony loam 9-12

Alomax very stony sandy loam and similar soils

Composition: 0 to 5 percent
Slope: 30 to 50 percent
Landform: Backslopes of mountains, ridges
Typical vegetation: Idaho fescue, needlegrass, antelope bitterbrush, mountain big sagebrush, bluebunch wheatgrass
Ecological site: R021XE174CA--Stony loam 12-16

Management

Major uses: Livestock grazing
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Forest land" section
"Engineering" section
"Soil Properties" section

175--Devada-Longcreek association, 2 to 30 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Mountains
 Elevation: 5,000 to 6,000
 Precipitation: 10 to 12 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Devada very cobbly loam, 2 to 30 percent slopes--60 percent
 Longcreek extremely stony loam, 2 to 30 percent slopes--30 percent
 Bucklake very stony loam, 9 to 30 percent slopes--3 percent
 Rock outcrop, 15 to 30 percent slopes--2 percent
 Tunnison very cobbly clay, 5 to 9 percent slopes--2 percent
 Loomis very cobbly loam, 5 to 30 percent slopes--2 percent
 Rubble land, 15 to 30 percent slopes--1 percent

Component Description

Devada and similar soils

Landform: Mountains
 Slope: 2 to 30 percent
 Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite
 Typical vegetation: Bluebunch wheatgrass, low sagebrush, bluegrass, Thurber needlegrass

Typical profile:

Surface rock fragments: About 25 percent stones, 25 percent cobbles
 Layer 1--0 to 4 inches; very cobbly loam
 Layer 2--4 to 13 inches; gravelly clay
 Layer 3--13 to 23 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF081CA--Shallow stony loam 9-12

Component Description

Longcreek and similar soils

Landform: Mountains
 Slope: 2 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, basin wildrye, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 25 percent stones, 25 percent cobbles
 Layer 1--0 to 3 inches; extremely stony loam
 Layer 2--3 to 7 inches; very cobbly clay loam
 Layer 3--7 to 18 inches; very cobbly clay
 Layer 4--18 to 28 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
 Permeability class (root zone): Slow
 Available water capacity: About 1.5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF082CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Bucklake and similar soils

Composition: 0 to 3 percent
 Slope: 9 to 30 percent
 Landform: Backslopes of mountains
 Typical vegetation: Thurber needlegrass, antelope bitterbrush, basin wildrye, rabbitbrush, mountain big sagebrush, bluebunch wheatgrass
 Ecological site: R023XF082CA--Stony loam 9-12

Rock outcrop

Composition: 0 to 2 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Ecological site: None assigned

Tunnison and similar soils

Composition: 0 to 2 percent

Slope: 5 to 9 percent

Landform: Plateaus

Typical vegetation: Bottlebrush squirreltail, western wheatgrass, big sagebrush, beardless wildrye, littleleaf horsebrush, Thurber needlegrass, rubber rabbitbrush

Ecological site: R023XF093CA--Shallow clay 9-16

Loomis and similar soils

Composition: 0 to 2 percent

Slope: 5 to 30 percent

Landform: Backslopes of plateaus

Typical vegetation: Bottlebrush squirreltail, Sandberg bluegrass, black sagebrush, bluebunch wheatgrass, Thurber needlegrass

Ecological site: R023XF087CA--Very shallow stony loam 9-12

Rubble land

Composition: 0 to 1 percent

Slope: 15 to 30 percent

Landform: Mountains

Ecological site: None assigned

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

176--Devada-Orhood-Hart Camp association, 5 to 30 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 5,500 to 6,000

Precipitation: 10 to 14 inches

Air temperature: 45 to 47 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Devada very stony loam, 5 to 15 percent slopes--30 percent

Orhood very stony loam, 5 to 30 percent slopes--30 percent

Hart Camp stony loam, 9 to 30 percent slopes--25 percent

Jauriga gravelly loam, 5 to 15 percent slopes--4 percent

Fiddler very stony loam, 15 to 30 percent slopes--4 percent

Searles very stony loam, 5 to 15 percent slopes--3 percent

Rock outcrop, 15 to 30 percent slopes--2 percent

Aquolls gravelly sandy loam, 0 to 5 percent slopes--1 percent

Rubble land, 15 to 30 percent slopes--1 percent

Component Description

Devada and similar soils

Landform: Backslopes of mountains

Slope: 5 to 15 percent, south aspect

Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite

Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, low sagebrush, Idaho fescue, bluegrass, antelope bitterbrush

Typical profile:

Surface rock fragments: About 15 percent stones, 20 percent cobbles

Layer 1--0 to 7 inches; very stony loam

Layer 2--7 to 15 inches; gravelly clay

Layer 3--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE173CA--Shallow stony loam 12-16

Component Description

Orhood and similar soils

Landform: Ridges

Slope: 5 to 30 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--western juniper, Forest understory--rabbitbrush, bluebunch wheatgrass, Lemmon needlegrass, Sandberg bluegrass, antelope bitterbrush, Idaho fescue, arrowleaf balsamroot, mountain big sagebrush, Thurber needlegrass

Site index: Western juniper--26 at an age base of 50 years

Typical profile:

Surface rock fragments: About 15 percent stones, 10 percent cobbles

Layer 1--0 to 4 inches; very stony loam

Layer 2--4 to 9 inches; very cobbly loam

Layer 3--9 to 19 inches; very cobbly clay loam
 Layer 4--19 to 23 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE174CA

Component Description

Hart Camp and similar soils

Landform: Backslopes of mountains
 Slope: 9 to 30 percent, north aspect
 Parent material: Andesitic tuff
 Typical vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, basin wildrye, Canby bluegrass, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 2 percent stones, 10 percent cobbles
 Layer 1--0 to 4 inches; stony loam
 Layer 2--4 to 16 inches; gravelly clay loam
 Layer 3--16 to 20 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE174CA--Stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Jauriga and similar soils

Composition: 0 to 4 percent
 Slope: 5 to 15 percent
 Landform: Toeslopes of mountains
 Typical vegetation: Antelope bitterbrush, bluegrass, Idaho fescue, mountain big sagebrush, needlegrass
 Ecological site: R021XE044CA--Cool loam 12-16

Fiddler and similar soils

Composition: 0 to 4 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--western juniper, Forest understory--antelope bitterbrush, arrowleaf balsamroot, Thurber needlegrass, mountain big sagebrush, Idaho fescue, rabbitbrush, Sandberg bluegrass, bluebunch wheatgrass, bottlebrush squirreltail, Nevada bluegrass
 Ecological site: R021XE174CA--Stony loam 12-16

Searles and similar soils

Composition: 0 to 3 percent
 Slope: 5 to 15 percent, south aspect
 Landform: Backslopes of mountains
 Typical vegetation: Mountain big sagebrush, antelope bitterbrush, bluebunch wheatgrass, Thurber needlegrass
 Ecological site: R021XE179CA

Rock outcrop

Composition: 0 to 2 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Ecological site: None assigned

Aquolls and similar soils

Composition: 0 to 1 percent
 Slope: 0 to 5 percent
 Landform: Lakeshores
 Ecological site: None assigned

Rubble land

Composition: 0 to 1 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Ecological site: None assigned

Management

Major uses: Livestock grazing, juniper wood products, wildlife habitat, watershed and recreation

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

177--Devada-Papeek-Gavel complex, 30 to 50 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Mountains
 Elevation: 4,800 to 5,400
 Precipitation: 20 to 25 inches
 Air temperature: 45 to 46 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Devada very stony loam, 30 to 50 percent slopes--40 percent
 Papeek cobbly clay loam, 30 to 50 percent slopes--30 percent
 Gavel gravelly loam, 30 to 50 percent slopes--20 percent
 Whiting very stony loam, 30 to 50 percent slopes--5 percent
 Gavel gravelly loam, thin surface, 30 to 50 percent slopes--5 percent

Component Description

Devada and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite
 Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, low sagebrush, Idaho fescue, bluegrass, antelope bitterbrush

Typical profile:

Surface rock fragments: About 15 percent stones, 15 percent cobbles
 Layer 1--0 to 7 inches; very stony loam
 Layer 2--7 to 15 inches; gravelly clay
 Layer 3--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
 Permeability class (root zone): Slow

Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R021XE173CA--Shallow stony loam 12-16

Component Description

Papeek and similar soils

Landform: Toeslopes of mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from metasedimentary rock and residuum weathered from metasedimentary rock
 Typical vegetation: Forest canopy--Jeffrey pine, Forest understory--antelope bitterbrush, Idaho fescue, mountain big sagebrush
 Site index: Jeffrey pine--79 at an age base of 100 years
 Additional forest note: Dunning site class: III
 Additional forest note: Cactus site index: 51

Typical profile:

Layer 1--0 to 3 inches; cobbly clay loam
 Layer 2--3 to 24 inches; clay
 Layer 3--24 to 33 inches; sandy clay loam
 Layer 4--33 to 43 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Component Description

Gavel and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, western juniper; Forest understory--Columbia needlegrass, mountain big sagebrush, sedge, curleaf mountain mahogany, Idaho fescue, bottlebrush squirreltail

Site index: Jeffrey pine--71 at an age base of 100 years
 Additional forest note: Dunning site class: IV
 Additional forest note: Cactus site index: 50

Typical profile:

Surface rock fragments: About 3 percent stones, 10 percent cobbles
 Layer 1--0 to 4 inches; gravelly loam
 Layer 2--4 to 27 inches; very gravelly loam
 Layer 3--27 to 70 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Whitinger and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--western juniper, Forest understory--Idaho fescue, mountain big sagebrush, bluebunch wheatgrass, needlegrass, antelope bitterbrush
 Ecological site: R021XE174CA--Stony loam 12-16

Gavel and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--Jeffrey pine, western juniper; Forest understory--mountain big sagebrush, Columbia needlegrass, Idaho fescue, bottlebrush squirreltail, sedge, curlleaf mountain mahogany
 Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

178--Devada-Petescreek-Fiddler association, 2 to 30 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 5,600 to 6,200
 Precipitation: 12 to 14 inches
 Air temperature: 45 to 47 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Devada very stony loam, 2 to 15 percent slopes--40 percent
 Petescreek gravelly loam, 15 to 30 percent slopes--25 percent
 Fiddler very stony loam, 5 to 30 percent slopes--20 percent
 Longcreek extremely stony loam, 15 to 30 percent slopes--3 percent
 Fredonyer very stony loam, 15 to 30 percent slopes--3 percent
 Bucklake very cobbly loam, 9 to 15 percent slopes--3 percent
 Dune land, 2 to 30 percent slopes--2 percent
 Tunnison very cobbly clay, 15 to 30 percent slopes--2 percent
 Madeline very stony loam, 15 to 30 percent slopes--2 percent

Component Description

Devada and similar soils

Landform: Backslopes of mountains, ridges
 Slope: 2 to 15 percent, south aspect
 Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite
 Typical vegetation: Antelope bitterbrush, bluegrass, Idaho fescue, low sagebrush, bluebunch wheatgrass, Thurber needlegrass

Typical profile:

Surface rock fragments: About 40 percent stones, 10 percent cobbles
 Layer 1--0 to 7 inches; very stony loam
 Layer 2--7 to 15 inches; gravelly clay
 Layer 3--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE173CA--Shallow stony loam 12-16

Component Description

Petescreek and similar soils

Landform: Backslopes of mountains

Slope: 15 to 30 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluegrass, mountain big sagebrush, needlegrass, antelope bitterbrush, Idaho fescue

Typical profile:

Surface rock fragments: About 2 percent cobbles

Layer 1--0 to 10 inches; gravelly loam

Layer 2--10 to 17 inches; gravelly loam

Layer 3--17 to 27 inches; cobbly loam

Layer 4--27 to 60 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE044CA--Cool loam 12-16

Component Description

Fiddler and similar soils

Landform: Backslopes of mountains

Slope: 5 to 30 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--western juniper, Forest understory--mountain big sagebrush, Thurber needlegrass, arrowleaf balsamroot, antelope bitterbrush, rabbitbrush, bluebunch wheatgrass, Nevada bluegrass, Sandberg bluegrass, bottlebrush squirreltail, Idaho fescue

Site index: Western juniper--20 at an age base of 50 years

Typical profile:

Surface rock fragments: About 30 percent stones, 10 percent cobbles

Layer 1--0 to 8 inches; very stony loam

Layer 2--8 to 14 inches; very cobbly clay loam

Layer 3--14 to 23 inches; clay

Layer 4--23 to 28 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE174CA--Stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Longcreek and similar soils

Composition: 0 to 3 percent

Slope: 15 to 30 percent

Landform: Mountains

Typical vegetation: Bluebunch wheatgrass, basin wildrye, antelope bitterbrush, Thurber needlegrass, mountain big sagebrush

Ecological site: R023XF082CA--Stony loam 9-12

Fredonyer and similar soils

Composition: 0 to 3 percent

Slope: 15 to 30 percent, south aspect

Landform: Backslopes of mountains, ridges

Typical vegetation: Idaho fescue, mountain big sagebrush, curleaf mountain mahogany

Ecological site: R021XE178CA--Very stony loam 12-16

Bucklake and similar soils

Composition: 0 to 3 percent

Slope: 9 to 15 percent, south aspect
 Landform: Backslopes of mountains
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, rabbitbrush, antelope bitterbrush, Thurber needlegrass
 Ecological site: R021XE179CA--Warm stony loam 12-16

Dune land

Composition: 0 to 2 percent
 Slope: 2 to 30 percent
 Landform: Dunes
 Ecological site: None assigned

Tunnison and similar soils

Composition: 0 to 2 percent
 Slope: 15 to 30 percent
 Landform: Plateaus
 Typical vegetation: Big sagebrush, rubber rabbitbrush, beardless wildrye, bottlebrush squirreltail, littleleaf horsebrush, western wheatgrass, Thurber needlegrass
 Ecological site: R023XF093CA--Shallow clay 9-16

Madeline and similar soils

Composition: 0 to 2 percent
 Slope: 15 to 30 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Thurber needlegrass, antelope bitterbrush, Idaho fescue, mountain big sagebrush, bluebunch wheatgrass
 Ecological site: R021XE174CA--Stony loam 12-16

Management

Major uses: Livestock grazing, juniper wood products
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

179--Devada-Rock outcrop association, 2 to 50 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Mountains
 Elevation: 4,400 to 5,400
 Precipitation: 12 to 14 inches
 Air temperature: 45 to 47 degrees Fahrenheit
 Frost-free period: 60 to 100 days

Composition

Devada very cobbly loam, 2 to 50 percent slopes--70 percent

Rock outcrop unweathered bedrock, 2 to 50 percent slopes--20 percent
 Longcreek very stony loam, 15 to 50 percent slopes--10 percent

Component Description

Devada and similar soils

Landform: Backslopes of mountains
 Slope: 2 to 50 percent
 Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite
 Typical vegetation: Thurber needlegrass, bluegrass, low sagebrush, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 5 percent stones, 30 percent cobbles
 Layer 1--0 to 7 inches; very cobbly loam
 Layer 2--7 to 15 inches; gravelly clay
 Layer 3--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XF081CA

Component Description

Rock outcrop

Landform: Mountains
 Slope: 2 to 50 percent

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Longcreek and similar soils

Composition: 0 to 10 percent

Slope: 15 to 50 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Bluebunch wheatgrass, Thurber
 needlegrass, antelope bitterbrush, basin wildrye,
 mountain big sagebrush
 Ecological site: R023XF082CA--Stony loam 9-12

Management

Major uses: Livestock grazing, urban land
 For information about managing this map unit, see the
 following sections and associated tables in Part II of
 this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

180--Dotta gravelly loam, 2 to 9 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Alluvial plain
 Elevation: 5,200 to 5,300
 Precipitation: 30 to 35 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Dotta gravelly loam, 2 to 9 percent slopes--95 percent
 Swainow very gravelly sandy loam, 5 to 9 percent slopes--
 5 percent

Component Description

Dotta and similar soils

Landform: Stream terraces
 Slope: 2 to 9 percent
 Parent material: Alluvium derived from mixed rocks
 Typical vegetation: Mountain big sagebrush, antelope
 bitterbrush, bluegrass, needlegrass, Idaho fescue

Typical profile:

Layer 1--0 to 10 inches; gravelly loam
 Layer 2--10 to 56 inches; gravelly sandy clay loam
 Layer 3--56 to 60 inches; gravelly sandy loam

See "Chemical Properties of Soils" table and the "Physical
 Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Permeability class (root zone): Moderately slow
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 4e-4
 Ecological site: R021XE044CA--Cool loam 12-16

Typical soil descriptions including ranges in characteristics
 are in the "Classification of the Soils" section.

Contrasting Inclusions

Swainow and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 9 percent
 Landform: Plateaus
 Typical vegetation: Forest canopy--Jeffrey pine,
 ponderosa pine, white fir; Forest understory--
 manzanita, whitethorn ceanothus, snowbrush
 ceanothus, needlegrass, mountain brome
 Ecological site: None assigned

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the
 following sections and associated tables in Part II of
 this publication:
 "Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

181--Dotta gravelly loam, high water table, 0 to 5 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Alluvial plain
 Elevation: 5,200 to 5,300
 Precipitation: 30 to 35 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Dotta gravelly loam, 0 to 5 percent slopes--90 percent
 Keddie loam, 0 to 2 percent slopes--10 percent

Component Description

Dotta and similar soils

Landform: Stream terraces
 Slope: 0 to 5 percent
 Parent material: Alluvium derived from mixed rocks
 Typical vegetation: Idaho fescue, bluegrass, antelope
 bitterbrush, needlegrass, mountain big sagebrush

Typical profile:

Layer 1--0 to 9 inches; gravelly loam
 Layer 2--9 to 32 inches; gravelly sandy clay loam

Layer 3--32 to 60 inches; gravelly sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium

Permeability class (root zone): Moderately slow

Available water capacity: About 6 inches

Present flooding: None

Water table: Present

Interpretive Groups

Nonirrigated land capability: 4w-4

Ecological site: R021XE044CA—Cool loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Keddie and similar soils

Composition: 0 to 10 percent

Slope: 0 to 2 percent

Landform: Alluvial fans

Ecological site: None assigned

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

182--Dryvalley silt loam, sandy substratum, 0 to 2 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Lake plain

Elevation: 5,290 to 5,350

Precipitation: 8 to 10 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Dryvalley silt loam, 0 to 2 percent slopes--90 percent

Termo silty clay, 0 to 2 percent slopes--5 percent

Cleghorn sandy loam, 0 to 2 percent slopes--5 percent

Component Description

Dryvalley and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Lacustrine deposits

Typical vegetation: Nevada bluegrass, littleleaf horsebrush, rubber rabbitbrush, big sagebrush

Typical profile:

Layer 1--0 to 4 inches; silt loam

Layer 2--4 to 20 inches; silty clay

Layer 3--20 to 42 inches; silty clay loam

Layer 4--42 to 60 inches; stratified sand to sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Available water capacity: About 8 inches

Present flooding: None

Present ponding: Frequent

Water table: Present

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 4s-3

Nonirrigated land capability: 4s-3

Ecological site: R021XE177CA--Silty flat 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Termo and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Black greasewood, Nevada bluegrass, spiny hopsage, basin wildrye, big sagebrush, rubber rabbitbrush

Ecological site: R021XE192CA--Silty sodic flat 12-16

Cleghorn and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Fan remnants

Typical vegetation: Basin big sagebrush, basin wildrye, beardless wildrye, Thurber needlegrass, needleandthread

Ecological site: R021XE195CA--Sandy loam terrace 12-16

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

183--Dryvalley-Playas complex, 0 to 2 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Lake plain
 Elevation: 5,300 to 5,350
 Precipitation: 8 to 10 inches
 Air temperature: 44 to 46 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Dryvalley silty clay loam, 0 to 2 percent slopes--75 percent
 Playas silty clay, 0 to 1 percent slopes--15 percent
 Cleghorn sandy loam, 0 to 2 percent slopes--4 percent
 Corral sandy loam, 0 to 2 percent slopes--4 percent
 Ravendale silty clay, 0 to 1 percent slopes--2 percent

Component Description

Dryvalley and similar soils

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Lacustrine deposits
 Typical vegetation: Basin big sagebrush, rubber rabbitbrush, littleleaf horsebrush, Nevada bluegrass

Typical profile:

Layer 1--0 to 5 inches; silty clay loam
 Layer 2--5 to 10 inches; silty clay
 Layer 3--10 to 34 inches; clay
 Layer 4--34 to 60 inches; silty clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Permeability class (root zone): Slow
 Available water capacity: About 10 inches
 Present flooding: None
 Present ponding: Frequent
 Water table: Present
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 4w-6

Ecological site: R021XE177CA--Silty flat 12-16

Component Description

Playas silty clay

Landform: Playas
 Slope: 0 to 1 percent

Component Properties and Qualities

Runoff: Negligible
 Salinity: Saline within 40 inches
 Present ponding: Frequent

Interpretive Groups

Nonirrigated land capability: 8
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Cleghorn and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Fan remnants
 Typical vegetation: Basin big sagebrush, basin wildrye, beardless wildrye, Thurber needlegrass, needleandthread
 Ecological site: R021XE195CA--Sandy loam terrace 12-16

Corral and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Rock pediments
 Typical vegetation: Basin wildrye, big sagebrush, needleandthread
 Ecological site: R021XE195CA--Sandy loam terrace 12-16

Ravendale drained and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 1 percent
 Landform: Basin floors
 Typical vegetation: Rubber rabbitbrush, Nevada bluegrass, beardless wildrye, basin big sagebrush, western wheatgrass
 Ecological site: R021XE189CA--Clay fan 12-16

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

184--Eaglelake very gravelly loam, 2 to 9 percent slopes

Map Unit Setting

MLRA: 22
Landscape: Plateau
Elevation: 5,400 to 6,400
Precipitation: 20 to 30 inches
Air temperature: 43 to 45 degrees Fahrenheit
Frost-free period: 60 to 80 days

Composition

Eaglelake very gravelly loam, 2 to 9 percent slopes--85 percent
Outland very stony loam, 5 to 9 percent slopes--5 percent
Rock outcrop, 5 to 9 percent slopes--5 percent
Eaglelake very gravelly loam, 5 to 9 percent slopes, extremely stony--5 percent

Component Description

Eaglelake and similar soils

Landform: Plateaus
Slope: 2 to 9 percent
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--greenleaf manzanita, whitethorn ceanothus, snowbrush ceanothus, other perennial grasses, needlegrass
Site index: Jeffrey pine--87 at an age base of 100 years
Site index: White fir--55 at an age base of 50 years
Additional forest note: Dunning site class: II
Additional forest note: Cactus site index: 68

Typical profile:

Layer 1--0 to 8 inches; very gravelly loam
Layer 2--8 to 17 inches; loam
Layer 3--17 to 55 inches; gravelly clay loam
Layer 4--55 to 77 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
Runoff: High
Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
Permeability class (root zone): Moderately slow
Available water capacity: About 7 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 3s-4
Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Outland and similar soils

Composition: 0 to 5 percent
Slope: 5 to 9 percent
Landform: Backslopes of mountains
Typical vegetation: Forest canopy--Jeffrey pine, ponderosa pine, white fir; Forest understory--antelope bitterbrush, snowbrush ceanothus, squawcarpet, whitethorn ceanothus, Sierra chinkapin, snowberry, sharpleaf snowberry, greenleaf manzanita
Ecological site: None assigned

Rock outcrop

Composition: 0 to 5 percent
Slope: 5 to 9 percent
Landform: Lava flows
Ecological site: None assigned

Eaglelake and similar soils

Composition: 0 to 5 percent
Slope: 5 to 9 percent
Landform: Plateaus
Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--greenleaf manzanita, other perennial grasses, needlegrass, snowbrush ceanothus, whitethorn ceanothus
Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Forest land" section
"Engineering" section
"Soil Properties" section

185--Eaglelake-Outland-Weste complex, 9 to 30 percent slopes

Map Unit Setting

MLRA: 22
Landscape: Mountains
Elevation: 5,500 to 6,100
Precipitation: 20 to 30 inches

Air temperature: 43 to 45 degrees Fahrenheit
Frost-free period: 60 to 80 days

Composition

Eaglelake very gravelly loam, 9 to 30 percent slopes--50 percent
Outland very gravelly sandy loam, 9 to 30 percent slopes--25 percent
Weste very stony sandy loam, 9 to 30 percent slopes--15 percent
Inville very gravelly sandy loam, 9 to 30 percent slopes--5 percent
Outland very gravelly sandy loam, 15 to 30 percent slopes, extremely stony--3 percent
Rock outcrop, 15 to 30 percent slopes--2 percent

Component Description

Eaglelake and similar soils

Landform: Backslopes of mountains
Slope: 9 to 30 percent
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--greenleaf manzanita, whitethorn ceanothus, snowbrush ceanothus, other perennial grasses, needlegrass
Site index: Jeffrey pine--87 at an age base of 100 years
Site index: White fir--55 at an age base of 50 years
Additional forest note: Dunning site class: II
Additional forest note: Cactus site index: 68

Typical profile:

Layer 1--0 to 7 inches; very gravelly loam
Layer 2--7 to 16 inches; loam
Layer 3--16 to 54 inches; gravelly clay loam
Layer 4--54 to 76 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
Runoff: Very high
Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
Permeability class (root zone): Moderately slow
Available water capacity: About 7 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
Ecological site: None assigned

Component Description

Outland and similar soils

Landform: Backslopes of mountains
Slope: 9 to 30 percent
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--sharpleaf snowberry, snowberry, squawcarpet, greenleaf manzanita, Sierra chinkapin, snowbrush ceanothus, whitethorn ceanothus
Site index: Jeffrey pine--88 at an age base of 100 years
Site index: White fir--47 at an age base of 50 years
Additional forest note: Dunning site class: III
Additional forest note: Cactus site index: 55

Typical profile:

Layer 1--0 to 4 inches; very gravelly sandy loam
Layer 2--4 to 36 inches; very gravelly loam
Layer 3--36 to 40 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 3 inches thick
Runoff: High
Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
Permeability class (root zone): Moderate
Available water capacity: About 3 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
Ecological site: None assigned

Component Description

Weste and similar soils

Landform: Mountains
Slope: 9 to 30 percent
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--squawcarpet, whitethorn ceanothus, greenleaf manzanita
Site index: Jeffrey pine--82 at an age base of 100 years
Additional forest note: Dunning site class: III
Additional forest note: Cactus site index: 61

Typical profile:

Surface rock fragments: About 5 percent cobbles, 20 percent stones
Layer 1--0 to 14 inches; very stony sandy loam

Layer 2--14 to 24 inches; very gravelly loam
 Layer 3--24 to 34 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Inville and similar soils

Composition: 0 to 5 percent

Slope: 9 to 30 percent

Landform: Alluvial fans

Typical vegetation: Forest canopy--Jeffrey pine, lodgepole pine, ponderosa pine; Forest understory--manzanita, whitethorn ceanothus, snowbrush ceanothus

Ecological site: None assigned

Outland and similar soils

Composition: 0 to 3 percent

Slope: 15 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--whitethorn ceanothus, greenleaf manzanita, snowbrush ceanothus, sharpleaf snowberry, squawcarpet, Sierra chinkapin, snowberry

Ecological site: None assigned

Rock outcrop

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Mountains

Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

186--Eaglelake-Outland-Weste complex, 30 to 50 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains

Elevation: 5,400 to 6,500

Precipitation: 20 to 30 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Eaglelake very gravelly loam, 30 to 50 percent slopes--45 percent

Outland very gravelly sandy loam, 30 to 50 percent slopes--25 percent

Weste very stony sandy loam, 30 to 50 percent slopes--15 percent

Rubble land, 30 to 50 percent slopes--5 percent

Rock outcrop, 30 to 50 percent slopes--5 percent

Easte very gravelly sandy loam, 30 to 50 percent slopes--5 percent

Component Description

Eaglelake and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--other perennial grasses, snowbrush ceanothus, whitethorn ceanothus, greenleaf manzanita, needlegrass

Site index: Jeffrey pine--87 at an age base of 100 years

Site index: White fir--55 at an age base of 50 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 68

Typical profile:

Layer 1--0 to 7 inches; very gravelly loam

Layer 2--7 to 16 inches; loam

Layer 3--16 to 54 inches; gravelly clay loam

Layer 4--54 to 76 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 7 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Component Description

Outland and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--snowbrush ceanothus, squawcarpet, Sierra chinkapin, whitethorn ceanothus, sharp-leaf snowberry, snowberry, greenleaf manzanita
 Site index: Jeffrey pine--88 at an age base of 100 years
 Site index: White fir--47 at an age base of 50 years
 Additional forest note: Dunning site class: III
 Additional forest note: Cactus site index: 55

Typical profile:

Layer 1--0 to 4 inches; very gravelly sandy loam
 Layer 2--4 to 36 inches; very gravelly loam
 Layer 3--36 to 40 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 3 inches thick
 Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Component Description

Weste and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--greenleaf manzanita, whitethorn ceanothus, squawcarpet
 Site index: Jeffrey pine--82 at an age base of 100 years
 Additional forest note: Dunning site class: III
 Additional forest note: Cactus site index: 61

Typical profile:

Surface rock fragments: About 20 percent stones, 5 percent cobbles
 Layer 1--0 to 14 inches; very stony sandy loam
 Layer 2--14 to 24 inches; very gravelly loam
 Layer 3--24 to 34 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rubble land

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Mountains
 Ecological site: None assigned

Rock outcrop

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Mountains
 Ecological site: None assigned

Easte and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent, north aspect
 Landform: Backslopes of mountains

Typical vegetation: Forest canopy--California red fir, white fir; Forest understory--other perennial grasses, needlegrass, greenleaf manzanita, whitethorn ceanothus, snowbrush ceanothus

Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

187--Eaglelake-Outland-Weste complex, altered, 9 to 30 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains

Elevation: 5,200 to 6,500

Precipitation: 20 to 30 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Eaglelake very gravelly loam, altered, 9 to 30 percent slopes--45 percent

Outland very stony loam, altered, 5 to 30 percent slopes--25 percent

Weste very stony sandy loam, altered, 9 to 30 percent slopes--15 percent

Rubble land, 15 to 30 percent slopes--5 percent

Easte very gravelly sandy loam, 15 to 30 percent slopes--4 percent

Outland very stony loam, 15 to 30 percent slopes--3 percent

Weste very stony sandy loam, 15 to 30 percent slopes, extremely stony--3 percent

Component Description

Eaglelake and similar soils

Landform: Backslopes of mountains

Slope: 9 to 30 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--other perennial grasses, snowbrush ceanothus, needlegrass, greenleaf manzanita, whitethorn ceanothus

Site index: Jeffrey pine--87 at an age base of 100 years

Site index: White fir--55 at an age base of 50 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 68

Typical profile:

Layer 1--0 to 12 inches; very gravelly loam

Layer 2--12 to 43 inches; gravelly clay loam

Layer 3--43 to 47 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The upper 4 to 6 inches of the surface layer has been removed and piled in windrows.

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Component Description

Outland and similar soils

Landform: Backslopes of mountains

Slope: 5 to 30 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, ponderosa pine, white fir; Forest understory--snowberry, whitethorn ceanothus, Sierra chinkapin, greenleaf manzanita, squawcarpet, sharpleaf snowberry, snowbrush ceanothus, antelope bitterbrush

Site index: Jeffrey pine--88 at an age base of 100 years

Site index: White fir--47 at an age base of 50 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 55

Typical profile:

Surface rock fragments: About 10 percent stones, 5 percent cobbles

Layer 1--0 to 10 inches; very stony loam

Layer 2--10 to 24 inches; very cobbly sandy loam

Layer 3--24 to 28 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The upper 4 to 6 inches of the surface layer has been removed and piled in windrows.

Runoff: Low
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Component Description

Weste and similar soils

Landform: Mountains
 Slope: 9 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--squawcarpet, whitethorn ceanothus, greenleaf manzanita
 Site index: Jeffrey pine--82 at an age base of 100 years
 Additional forest note: Dunning site class: III
 Additional forest note: Cactus site index: 61

Typical profile:

Surface rock fragments: About 15 percent stones, 10 percent cobbles
 Layer 1--0 to 10 inches; very stony sandy loam
 Layer 2--10 to 24 inches; very gravelly loam
 Layer 3--24 to 28 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The upper 4 to 6 inches of the surface layer has been removed and piled in windrows.
 Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rubble land

Composition: 0 to 5 percent

Slope: 15 to 30 percent
 Landform: Mountains
 Ecological site: None assigned

Easte and similar soils

Composition: 0 to 4 percent
 Slope: 15 to 30 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--California red fir, white fir; Forest understory--snowbrush ceanothus, whitethorn ceanothus, greenleaf manzanita, other perennial grasses, needlegrass
 Ecological site: None assigned

Outland and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--Jeffrey pine, ponderosa pine, white fir; Forest understory--whitethorn ceanothus, Sierra chinkapin, squawcarpet, snowbrush ceanothus, snowberry, antelope bitterbrush, greenleaf manzanita, sharpleaf snowberry
 Ecological site: None assigned

Weste and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--squawcarpet, greenleaf manzanita, whitethorn ceanothus
 Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

188--Eaglelake-Outland-Weste complex, altered, 30 to 50 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Mountains
 Elevation: 5,400 to 6,500
 Precipitation: 20 to 30 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Eaglelake very gravelly loam, 30 to 50 percent slopes--45 percent
 Outland very stony loam, 30 to 50 percent slopes--25 percent
 Weste very stony sandy loam, 30 to 50 percent slopes--15 percent
 Deadwood very gravelly sandy loam, 30 to 50 percent slopes--8 percent
 Eaglelake very gravelly loam, 30 to 50 percent slopes, extremely stony--7 percent

Component Description**Eaglelake and similar soils**

Landform: Backslopes of mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--greenleaf manzanita, needlegrass, other perennial grasses, snowbrush ceanothus, whitethorn ceanothus
 Site index: Jeffrey pine--87 at an age base of 100 years
 Site index: White fir--55 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 68

Typical profile:

Layer 1--0 to 12 inches; very gravelly loam
 Layer 2--12 to 43 inches; gravelly clay loam
 Layer 3--43 to 47 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The upper 4 to 6 inches of the surface layer has been removed and piled in windrows.
 Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Component Description**Outland and similar soils**

Landform: Backslopes of mountains
 Slope: 30 to 50 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, ponderosa pine, white fir; Forest understory--squawcarpet, antelope bitterbrush, snowberry, snowbrush ceanothus, sharpleaf snowberry, greenleaf manzanita, whitethorn ceanothus, Sierra chinkapin
 Site index: Jeffrey pine--88 at an age base of 100 years
 Site index: White fir--47 at an age base of 50 years
 Additional forest note: Dunning site class: III
 Additional forest note: Cactus site index: 55

Typical profile:

Surface rock fragments: About 10 percent stones, 5 percent cobbles
 Layer 1--0 to 10 inches; very stony loam
 Layer 2--10 to 24 inches; very cobbly sandy loam
 Layer 3--24 to 28 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The upper 4 to 6 inches of the surface layer has been removed and piled in windrows.
 Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Component Description**Weste and similar soils**

Landform: Backslopes of mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--greenleaf manzanita, whitethorn ceanothus, squawcarpet
 Site index: Jeffrey pine--82 at an age base of 100 years
 Additional forest note: Dunning site class: III
 Additional forest note: Cactus site index: 61

Typical profile:

Surface rock fragments: About 15 percent stones, 10 percent cobbles
 Layer 1--0 to 10 inches; very stony sandy loam

Layer 2--10 to 24 inches; very gravelly loam
 Layer 3--24 to 28 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The upper 4 to 6 inches of the surface layer has been removed and piled in windrows.

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Deadwood and similar soils

Composition: 0 to 8 percent

Slope: 30 to 50 percent

Landform: Ridges

Typical vegetation: Forest canopy--Douglas fir, canyon live oak, incense cedar, ponderosa pine, sugar pine;

Forest understory--pinemat manzanita, greenleaf manzanita, California nutmeg

Ecological site: None assigned

Eaglelake and similar soils

Composition: 0 to 7 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--other perennial grasses, needlegrass, whitethorn ceanothus, greenleaf manzanita, snowbrush ceanothus

Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Forest land" section

"Engineering" section

"Soil Properties" section

189--Easte-Fredonyer association, 30 to 50 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 6,400 to 7,600

Precipitation: 16 to 20 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Easte gravelly loam, 30 to 50 percent slopes--55 percent

Fredonyer very stony loam, 30 to 50 percent slopes--30 percent

Petescreek very gravelly loam, 30 to 50 percent slopes--4 percent

Glean very stony loam, 30 to 50 percent slopes--3 percent

Said gravelly loam, 30 to 50 percent slopes--3 percent

Rubble land, 30 to 50 percent slopes--2 percent

Xerolls loamy coarse sand, 30 to 50 percent slopes--2 percent

Eaglelake family very gravelly loam, 30 to 50 percent slopes--1 percent

Component Description

Easte and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--white fir,

Forest understory--mountain big sagebrush, Idaho fescue, other perennial grasses, antelope bitterbrush

Site index: White fir--42 at an age base of 50 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 49

Typical profile:

Layer 1--0 to 13 inches; gravelly loam

Layer 2--13 to 58 inches; extremely gravelly loam

Layer 3--58 to 62 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 3 inches thick

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: None assigned

Component Description

Fredonyer and similar soils

Landform: Backslopes of mountains, ridges

Slope: 30 to 50 percent, south aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Mountain big sagebrush, curlleaf mountain mahogany, Idaho fescue

Typical profile:

Surface rock fragments: About 25 percent stones, 5 percent cobbles

Layer 1--0 to 4 inches; very stony loam

Layer 2--4 to 12 inches; very gravelly loam

Layer 3--12 to 28 inches; very cobbly loam

Layer 4--28 to 38 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE178CA--Very stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Petescreek and similar soils

Composition: 0 to 4 percent

Slope: 30 to 50 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Mountain big sagebrush, needlegrass, antelope bitterbrush, bluegrass, Idaho fescue

Ecological site: R021XE044CA

Glean and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Antelope bitterbrush, Idaho fescue, mountain big sagebrush, needlegrass, bluebunch wheatgrass

Ecological site: R021XE174CA--Stony loam 12-16

Said and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--snowberry, whitethorn ceanothus, squawcarpet, manzanita, Columbia needlegrass, Idaho fescue, mountain big sagebrush

Ecological site: None assigned

Rubble land

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Mountains

Ecological site: None assigned

Xerolls and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Lakeshores

Ecological site: None assigned

Eaglelake family and similar soils

Composition: 0 to 1 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--other perennial grasses, needlegrass, greenleaf manzanita, whitethorn ceanothus, snowbrush ceanothus

Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

190--Easte-Roop complex, 5 to 30 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains

Elevation: 6,400 to 7,200

Precipitation: 20 to 30 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Easte very gravelly sandy loam, 5 to 30 percent slopes--50 percent

Roop very stony loam, 5 to 30 percent slopes--35 percent

Rock outcrop, 15 to 30 percent slopes--4 percent

Outland very stony loam, 15 to 30 percent slopes--4 percent

Rubble land, 15 to 30 percent slopes--3 percent

Roop very stony loam, 15 to 30 percent slopes, extremely stony--2 percent

Easte very gravelly sandy loam, 30 to 50 percent slopes, extremely stony--2 percent

Component Description

Easte and similar soils

Landform: Backslopes of mountains

Slope: 5 to 30 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--California red fir, white fir; Forest understory--needlegrass, greenleaf manzanita, whitethorn ceanothus, snowbrush ceanothus, other perennial grasses

Site index: White fir--46 at an age base of 50 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 53

Typical profile:

Layer 1--0 to 13 inches; very gravelly sandy loam

Layer 2--13 to 42 inches; extremely gravelly loam

Layer 3--42 to 62 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 2 inches thick

Runoff: Low

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Component Description

Roop and similar soils

Landform: Backslopes of mountains

Slope: 5 to 30 percent, north aspect

Parent material: Volcanic ash and colluvium derived from volcanic rock over residuum weathered from volcanic rock

Typical vegetation: Forest canopy--California red fir, western white pine, white fir; Forest understory--needlegrass, other perennial grasses, whitethorn ceanothus, greenleaf manzanita, snowbrush ceanothus

Site index: White fir--47 at an age base of 50 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 53

Typical profile:

Surface rock fragments: About 20 percent stones, 5 percent cobbles

Layer 1--0 to 5 inches; very stony loam

Layer 2--5 to 13 inches; very gravelly sandy loam

Layer 3--13 to 27 inches; very gravelly loam

Layer 4--27 to 36 inches; very cobbly loam

Layer 5--36 to 46 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 4 percent

Slope: 15 to 30 percent

Landform: Mountains

Ecological site: None assigned

Outland and similar soils

Composition: 0 to 4 percent

Slope: 15 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Jeffrey pine, ponderosa pine, white fir; Forest understory--sharp-leaf snowberry, snowberry, antelope bitterbrush, snowbrush ceanothus, squawcarpet, whitethorn ceanothus, Sierra chinkapin, greenleaf manzanita

Ecological site: None assigned

Rubble land

Composition: 0 to 3 percent

Slope: 15 to 30 percent

Landform: Mountains

Ecological site: None assigned

Roop and similar soils

Composition: 0 to 2 percent

Slope: 15 to 30 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--California red fir, western white pine, white fir; Forest understory--needlegrass, other perennial grasses, snowbrush ceanothus, whitethorn ceanothus, greenleaf manzanita

Ecological site: None assigned

Easte and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--California red fir, white fir; Forest understory--needlegrass, greenleaf manzanita, other perennial grasses, snowbrush ceanothus, whitethorn ceanothus

Ecological site: None assigned

Management

Major uses: Timber production, Christmas trees, livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

191--Easte-Roop complex, 30 to 50 percent

Map Unit Setting

MLRA: 22

Landscape: Mountains

Elevation: 6,000 to 7,200

Precipitation: 20 to 30 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Easte very gravelly sandy loam, 30 to 50 percent slopes--50 percent

Roop very stony loam, 30 to 50 percent slopes--40 percent

Outland very stony loam, 30 to 50 percent slopes--5 percent

Rock outcrop, 30 to 50 percent slopes--3 percent

Rubble land, 30 to 50 percent slopes--2 percent

Component Description

Easte and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--California red fir, white fir; Forest understory--other perennial grasses, snowbrush ceanothus, whitethorn ceanothus, greenleaf manzanita, needlegrass

Site index: White fir--46 at an age base of 50 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 53

Typical profile:

Layer 1--0 to 13 inches; very gravelly sandy loam

Layer 2--13 to 42 inches; extremely gravelly loam

Layer 3--42 to 62 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Component Description

Roop and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent, north aspect

Parent material: Volcanic ash and colluvium derived from volcanic rock over residuum weathered from volcanic rock

Typical vegetation: Forest canopy--California red fir, western white pine, white fir; Forest understory--other perennial grasses, snowbrush ceanothus, needlegrass, greenleaf manzanita, whitethorn ceanothus

Site index: White fir--47 at an age base of 50 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 53

Typical profile:

Surface rock fragments: About 20 percent stones, 5 percent cobbles

Layer 1--0 to 5 inches; very stony loam

Layer 2--5 to 13 inches; very gravelly sandy loam

Layer 3--13 to 27 inches; very gravelly loam

Layer 4--27 to 36 inches; very cobbly loam

Layer 5--36 to 46 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Outland and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Jeffrey pine, ponderosa pine, white fir; Forest understory--greenleaf manzanita, Sierra chinkapin, whitethorn ceanothus, squawcarpet, snowbrush ceanothus, antelope bitterbrush, snowberry, sharp-leaf snowberry

Ecological site: None assigned

Rock outcrop

Composition: 0 to 3 percent

Slope: 30 to 50 percent

Landform: Mountains

Ecological site: None assigned

Rubble land

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Mountains

Ecological site: None assigned

Management

Major uses: Timber production, Christmas trees

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

192--Epot-Playas complex, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Bolson

Elevation: 4,000 to 4,010

Precipitation: 6 to 8 inches

Air temperature: 49 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Epot very fine sandy loam, 0 to 2 percent slopes--55 percent

Playas silty clay, 0 to 1 percent slopes--15 percent

Ardep fine sandy loam, 0 to 2 percent slopes--9 percent

Highrock fine sandy loam, 0 to 2 percent slopes--8 percent

Ragtown loam, 0 to 2 percent slopes--7 percent

Wespac fine sandy loam, 0 to 2 percent slopes--6 percent

Component Description

Epot and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Lacustrine deposits

Typical vegetation: Bud sagebrush, shadscale, black greasewood, bottlebrush squirreltail

Typical profile:

Layer 1--0 to 6 inches; very fine sandy loam

Layer 2--6 to 13 inches; loam

Layer 3--13 to 21 inches; clay loam

Layer 4--21 to 35 inches; clay loam

Layer 5--35 to 42 inches; loam

Layer 6--42 to 48 inches; clay loam

Layer 7--48 to 63 inches; stratified fine sand to very fine sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Permeability class (root zone): Very slow
 Salinity: Saline within 40 inches
 Sodicty: Sodic within 40 inches
 Available water capacity: About 7 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XG046CA--Sodic flat 6-9

Component Description**Playas silty clay**

Landform: Playas
 Slope: 0 to 1 percent

Component Properties and Qualities

Runoff: Negligible
 Salinity: Saline within 40 inches
 Present ponding: Frequent

Interpretive Groups

Nonirrigated land capability: 8
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Ardep and similar soils**

Composition: 0 to 9 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Black greasewood, bud sagebrush, shadscale, bottlebrush squirreltail
 Ecological site: R023XG046CA

Highrock and similar soils

Composition: 0 to 8 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Shadscale, basin wildrye, spiny hopsage, black greasewood, bottlebrush squirreltail
 Ecological site: R023XG047CA--Sodic terrace 6-9

Ragtown and similar soils

Composition: 0 to 7 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Spiny hopsage, shadscale, basin wildrye, black greasewood, bottlebrush squirreltail
 Ecological site: R023XG047CA--Sodic terrace 6-9

Wespac and similar soils

Composition: 0 to 6 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Basin big sagebrush, basin wildrye, black greasewood, bottlebrush squirreltail
 Ecological site: R023XG048CA--Sodic loam 6-9

Management

Major uses: Livestock grazing, urban development
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

193--Epot-Ragtown-Playas complex, 0 to 2 percent slopes**Map Unit Setting**

MLRA: 23
 Landscape: Bolson
 Elevation: 4,000 to 4,020
 Precipitation: 6 to 8 inches
 Air temperature: 49 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Epot very fine sandy loam, 0 to 2 percent slopes--40 percent
 Ragtown loam, 0 to 2 percent slopes--30 percent
 Playas silty clay, 0 to 1 percent slopes--20 percent
 Wespac fine sandy loam, 0 to 2 percent slopes--5 percent
 Ardep fine sandy loam, 0 to 2 percent slopes--5 percent

Component Description**Epot and similar soils**

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Lacustrine deposits
 Typical vegetation: Bud sagebrush, shadscale, black greasewood, bottlebrush squirreltail

Typical profile:

Layer 1--0 to 6 inches; very fine sandy loam
 Layer 2--6 to 13 inches; loam
 Layer 3--13 to 21 inches; clay loam
 Layer 4--21 to 35 inches; clay loam
 Layer 5--35 to 42 inches; loam
 Layer 6--42 to 48 inches; clay loam
 Layer 7--48 to 63 inches; stratified fine sand to very fine sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
Permeability class (root zone): Very slow
Salinity: Saline within 40 inches
Sodicity: Sodic within 40 inches
Available water capacity: About 7 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XG046CA--Sodic flat 6-9

Component Description

Ragtown and similar soils

Landform: Lake terraces
Slope: 0 to 2 percent
Parent material: Lacustrine deposits
Typical vegetation: Shadscale, basin wildrye, black greasewood, bottlebrush squirreltail, spiny hopsage

Typical profile:

Layer 1--0 to 4 inches; loam
Layer 2--4 to 60 inches; stratified silty clay loam to clay

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
Permeability class (root zone): Slow
Available water capacity: About 11 inches
Present flooding: None
Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XG047CA--Sodic terrace 6-9

Component Description

Playas silty clay

Landform: Playas
Slope: 0 to 1 percent

Component Properties and Qualities

Runoff: Negligible
Salinity: Saline within 40 inches
Present ponding: Frequent

Interpretive Groups

Nonirrigated land capability: 8
Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Wespac and similar soils

Composition: 0 to 5 percent
Slope: 0 to 2 percent
Landform: Lake terraces
Typical vegetation: Basin wildrye, basin big sagebrush, bottlebrush squirreltail, black greasewood
Ecological site: R023XG048CA--Sodic loam 6-9

Ardep and similar soils

Composition: 0 to 5 percent
Slope: 0 to 2 percent
Landform: Lake terraces
Typical vegetation: Bottlebrush squirreltail, black greasewood, shadscale, bud sagebrush
Ecological site: R023XG046CA--Sodic flat 6-9

Management

Major uses: Livestock grazing
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" section
"Soil Properties" section

194--Fiddler-Gavel-Rubble land complex, 5 to 30 percent slopes

Map Unit Setting

MLRA: 21
Landscape: Mountains
Elevation: 4,800 to 5,800
Precipitation: 16 to 18 inches
Air temperature: 45 to 47 degrees Fahrenheit
Frost-free period: 80 to 100 days

Composition

Fiddler very stony loam, 5 to 30 percent slopes--35 percent
Gavel gravelly loam, 5 to 30 percent slopes--30 percent
Rubble land fragmental material, 15 to 30 percent slopes--15 percent
Devada very cobbly loam, 15 to 30 percent slopes--7 percent
Orhood very stony loam, 5 to 30 percent slopes--6 percent
Rock outcrop, 15 to 30 percent slopes--3 percent
Whitinger very stony loam, 5 to 30 percent slopes--2 percent
Said gravelly loam, 15 to 30 percent slopes--2 percent

Component Description**Fiddler and similar soils**

Landform: Backslopes of mountains

Slope: 5 to 30 percent, south aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--western juniper, Forest understory--Thurber needlegrass, rabbitbrush, antelope bitterbrush, arrowleaf balsamroot, mountain big sagebrush, Idaho fescue, bottlebrush squirreltail, Sandberg bluegrass, Nevada bluegrass, bluebunch wheatgrass

Site index: Western juniper--20 at an age base of 50 years

Typical profile:

Surface rock fragments: About 15 percent stones, 20 percent cobbles

Layer 1--0 to 8 inches; very stony loam

Layer 2--8 to 14 inches; very cobbly clay loam

Layer 3--14 to 23 inches; clay

Layer 4--23 to 28 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE174CA--Stony loam 12-16

Component Description**Gavel and similar soils**

Landform: Backslopes of mountains

Slope: 5 to 30 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, western juniper; Forest understory--mountain big sagebrush, sedge, curlleaf mountain mahogany, Columbia needlegrass, Idaho fescue, bottlebrush squirreltail

Site index: Jeffrey pine--71 at an age base of 100 years

Additional forest note: Dunning site class: IV

Additional forest note: Cactus site index: 50

Typical profile:

Surface rock fragments: About 10 percent cobbles

Layer 1--0 to 4 inches; gravelly loam

Layer 2--4 to 27 inches; very gravelly loam

Layer 3--27 to 70 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: None assigned

Component Description**Rubble land**

Landform: Mountains

Slope: 15 to 30 percent

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Devada and similar soils**

Composition: 0 to 7 percent

Slope: 15 to 30 percent

Landform: Ridges

Typical vegetation: Thurber needlegrass, antelope bitterbrush, bluegrass, Idaho fescue, low sagebrush, bluebunch wheatgrass

Ecological site: R021XE173CA

Orhood and similar soils

Composition: 0 to 6 percent

Slope: 5 to 30 percent

Landform: Ridges

Typical vegetation: Forest canopy--western juniper, Forest understory--Sandberg bluegrass, arrowleaf balsamroot, bluebunch wheatgrass, Thurber needlegrass, mountain big sagebrush, rabbitbrush,

Lemmon needlegrass, Idaho fescue, antelope bitterbrush

Ecological site: R021XE174CA

Rock outcrop

Composition: 0 to 3 percent

Slope: 15 to 30 percent

Landform: Mountains

Ecological site: None assigned

Whitinger and similar soils

Composition: 0 to 2 percent

Slope: 5 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--western juniper,

Forest understory--needlegrass, antelope bitterbrush, Idaho fescue, mountain big sagebrush, bluebunch wheatgrass

Ecological site: R021XE174CA--Stony loam 12-16

Said and similar soils

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Jeffrey pine, white fir,

Forest understory--manzanita, snowberry, Idaho fescue, squawcarpet, whitethorn ceanothus, mountain big sagebrush, Columbia needlegrass

Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

195--Fiddler-Gavel-Rubble land association, 30 to 50 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 4,800 to 5,600

Precipitation: 16 to 18 inches

Air temperature: 45 to 47 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Fiddler very stony loam, 30 to 50 percent slopes--40 percent

Gavel gravelly loam, 30 to 50 percent slopes--25 percent

Rubble land fragmental material, 30 to 50 percent slopes--15 percent

Orhood very stony loam, 30 to 50 percent slopes--5 percent

Devada very cobbly loam, 30 to 50 percent slopes--5 percent

Rock outcrop, 30 to 50 percent slopes--4 percent

Whitinger very stony loam, 30 to 50 percent slopes--4 percent

Said gravelly loam, 30 to 50 percent slopes--2 percent

Component Description

Fiddler and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent, south aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--western juniper,

Forest understory--bottlebrush squirreltail, Sandberg bluegrass, Idaho fescue, mountain big sagebrush, Thurber needlegrass, arrowleaf balsamroot, antelope bitterbrush, rabbitbrush, Nevada bluegrass, bluebunch wheatgrass

Site index: Western juniper--20 at an age base of 50 years

Typical profile:

Surface rock fragments: About 15 percent stones, 20 percent cobbles

Layer 1--0 to 8 inches; very stony loam

Layer 2--8 to 14 inches; very cobbly clay loam

Layer 3--14 to 23 inches; clay

Layer 4--23 to 28 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R021XE174CA--Stony loam 12-16

Component Description

Gavel and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, western juniper; Forest understory--bottlebrush squirreltail, Idaho fescue, Columbia needlegrass, mountain big sagebrush, curlleaf mountain mahogany, sedge
 Site index: Jeffrey pine--71 at an age base of 100 years
 Additional forest note: Dunning site class: IV
 Additional forest note: Cactus site index: 50

Typical profile:

Surface rock fragments: About 10 percent cobbles
 Layer 1--0 to 4 inches; gravelly loam
 Layer 2--4 to 27 inches; very gravelly loam
 Layer 3--27 to 70 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: None assigned

Component Description

Rubble land

Landform: Mountains
 Slope: 30 to 50 percent

Component Properties and Qualities

Runoff: Low
 Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Orhood and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Ridges
 Typical vegetation: Forest canopy--western juniper, Forest understory--Thurber needlegrass, arrowleaf balsamroot, bluebunch wheatgrass, mountain big

sagebrush, Sandberg bluegrass, rabbitbrush, antelope bitterbrush, Lemmon needlegrass, Idaho fescue
 Ecological site: R021XE174CA--Stony loam 12-16

Devada and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Ridges
 Typical vegetation: Antelope bitterbrush, Thurber needlegrass, bluegrass, Idaho fescue, bluebunch wheatgrass, low sagebrush
 Ecological site: R021XE173CA--Shallow stony loam 12-16

Rock outcrop

Composition: 0 to 4 percent
 Slope: 30 to 50 percent
 Landform: Mountains
 Ecological site: None assigned

Whiting and similar soils

Composition: 0 to 4 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--western juniper, Forest understory--bluebunch wheatgrass, needlegrass, antelope bitterbrush, mountain big sagebrush, Idaho fescue
 Ecological site: R021XE174CA

Said and similar soils

Composition: 0 to 2 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--manzanita, whitethorn ceanothus, squawcarpet, Idaho fescue, Columbia needlegrass, mountain big sagebrush, snowberry
 Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

196--Fiddler-Madeline association, 5 to 30 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains
 Elevation: 5,400 to 5,800
 Precipitation: 12 to 14 inches
 Air temperature: 43 to 46 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Fiddler very stony loam, 5 to 30 percent slopes--45 percent
 Madeline very stony loam, 5 to 30 percent slopes--35 percent
 Orhood very stony loam, 5 to 30 percent slopes--5 percent
 Devada very stony loam, 5 to 30 percent slopes--5 percent
 Rock outcrop, 15 to 30 percent slopes--4 percent
 Fivesprings very stony loam, 5 to 15 percent slopes--3 percent
 Petescreek very gravelly loam, 5 to 15 percent slopes--3 percent

Component Description

Fiddler and similar soils

Landform: Backslopes of mountains
 Slope: 5 to 30 percent, south aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--western juniper, Forest understory--rabbitbrush, antelope bitterbrush, arrowleaf balsamroot, Thurber needlegrass, mountain big sagebrush, Idaho fescue, bottlebrush squirreltail, Sandberg bluegrass, Nevada bluegrass, bluebunch wheatgrass
 Site index: Western juniper--20 at an age base of 50 years

Typical profile:

Surface rock fragments: About 15 percent stones, 20 percent cobbles, 20 percent gravel
 Layer 1--0 to 8 inches; very stony loam
 Layer 2--8 to 14 inches; very cobbly clay loam
 Layer 3--14 to 23 inches; clay
 Layer 4--23 to 28 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE174CA--Stony loam 12-16

Component Description

Madeline and similar soils

Landform: Backslopes of mountains
 Slope: 5 to 30 percent, north aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush

Typical profile:

Surface rock fragments: About 20 percent stones, 20 percent cobbles
 Layer 1--0 to 5 inches; very stony loam
 Layer 2--5 to 9 inches; gravelly clay loam
 Layer 3--9 to 16 inches; gravelly clay
 Layer 4--16 to 20 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE174CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Orhood and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 30 percent
 Landform: Ridges
 Typical vegetation: Forest canopy--western juniper, Forest understory--arrowleaf balsamroot, bluebunch wheatgrass, antelope bitterbrush, Sandberg bluegrass, Lemmon needlegrass, mountain big sagebrush, Idaho fescue, rabbitbrush, Thurber needlegrass
 Ecological site: R021XE174CA

Devada and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 30 percent, south aspect
 Landform: Backslopes of mountains, ridges

Typical vegetation: Low sagebrush, bluebunch wheatgrass, Thurber needlegrass, antelope bitterbrush, bluegrass, Idaho fescue
Ecological site: R021XE173CA--Shallow stony loam 12-16

Rock outcrop

Composition: 0 to 4 percent
Slope: 15 to 30 percent
Landform: Mountains
Ecological site: None assigned

Fivesprings and similar soils

Composition: 0 to 3 percent
Slope: 5 to 15 percent, south aspect
Landform: Mountains
Typical vegetation: Mountain big sagebrush, antelope bitterbrush, Thurber needlegrass, bluebunch wheatgrass
Ecological site: R021XE179CA

Petescreek and similar soils

Composition: 0 to 3 percent
Slope: 5 to 15 percent, north aspect
Landform: Backslopes of mountains
Typical vegetation: Mountain big sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, needlegrass
Ecological site: R021XE044CA--Cool loam 12-16

Management

Major uses: Juniper wood products
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Forest land" section
"Engineering" section
"Soil Properties" section

197--Fiddler-Orhood-Petescreek association, 5 to 30 percent slopes

Map Unit Setting

MLRA: 21
Landscape: Mountains
Elevation: 5,400 to 6,200
Precipitation: 12 to 16 inches
Air temperature: 44 to 46 degrees Fahrenheit
Frost-free period: 60 to 80 days

Composition

Fiddler very stony loam, 15 to 30 percent slopes--30 percent
Orhood very stony loam, 5 to 15 percent slopes--30 percent

Petescreek very gravelly loam, 9 to 30 percent slopes--25 percent
Home Camp stony loam, 5 to 15 percent slopes--5 percent
Fredonyer very stony loam, 5 to 30 percent slopes--4 percent
Buckbay gravelly loam, 9 to 30 percent slopes--3 percent
Badenaugh stony sandy loam, 5 to 15 percent slopes--3 percent

Component Description

Fiddler and similar soils

Landform: Backslopes of mountains
Slope: 15 to 30 percent, south aspect
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
Typical vegetation: Forest canopy--western juniper, Forest understory--Nevada bluegrass, antelope bitterbrush, bluebunch wheatgrass, bottlebrush squirreltail, Sandberg bluegrass, Idaho fescue, mountain big sagebrush, Thurber needlegrass, arrowleaf balsamroot, rabbitbrush
Site index: Western juniper--20 at an age base of 50 years

Typical profile:

Surface rock fragments: About 20 percent cobbles, 15 percent stones, 20 percent gravel
Layer 1--0 to 8 inches; very stony loam
Layer 2--8 to 14 inches; very cobbly clay loam
Layer 3--14 to 23 inches; very cobbly clay
Layer 4--23 to 28 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
Permeability class (root zone): Slow
Available water capacity: About 2 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R021XE174CA--Stony loam 12-16

Component Description

Orhood and similar soils

Landform: Ridges
Slope: 5 to 15 percent
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--western juniper,
Forest understory--Thurber needlegrass, Sandberg
bluegrass, Idaho fescue, Lemmon needlegrass,
rabbitbrush, bluebunch wheatgrass, antelope
bitterbrush, arrowleaf balsamroot, mountain big
sagebrush
Site index: Western juniper--26 at an age base of 50 years

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15
percent stones
Layer 1--0 to 4 inches; very stony loam
Layer 2--4 to 9 inches; very cobbly loam
Layer 3--9 to 19 inches; very cobbly clay loam
Layer 4--19 to 23 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical
Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (lithic): 14 to 20
inches
Permeability class (root zone): Moderately slow
Available water capacity: About 2 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R021XE174CA--Stony loam 12-16

Component Description

Petescreek and similar soils

Landform: Backslopes of mountains
Slope: 9 to 30 percent, north aspect
Parent material: Colluvium derived from volcanic rock and
residuum weathered from volcanic rock
Typical vegetation: Needlegrass, antelope bitterbrush,
bluegrass, Idaho fescue, mountain big sagebrush

Typical profile:

Layer 1--0 to 10 inches; very gravelly loam
Layer 2--10 to 17 inches; gravelly loam
Layer 3--17 to 27 inches; cobbly loam
Layer 4--27 to 60 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical
Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (paralithic): 20 to 40
inches
Permeability class (root zone): Moderate

Available water capacity: About 3 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
Ecological site: R021XE044CA--Cool loam 12-16

Typical soil descriptions including ranges in characteristics
are in the "Classification of the Soils" section.

Contrasting Inclusions

Home Camp and similar soils

Composition: 0 to 5 percent
Slope: 5 to 15 percent
Landform: Ridges
Typical vegetation: Bluebunch wheatgrass, mountain big
sagebrush, Idaho fescue, antelope bitterbrush,
needlegrass
Ecological site: R021XE174CA--Stony loam 12-16

Fredonyer and similar soils

Composition: 0 to 4 percent
Slope: 5 to 30 percent, south aspect
Landform: Backslopes of mountains, ridges
Typical vegetation: Curleaf mountain mahogany,
mountain big sagebrush, Idaho fescue
Ecological site: R021XE178CA--Very stony loam 12-16

Buckbay and similar soils

Composition: 0 to 3 percent
Slope: 9 to 30 percent, south aspect
Landform: Backslopes of mountains
Typical vegetation: Forest canopy--western juniper,
Forest understory--needlegrass, Idaho fescue,
antelope bitterbrush, bluebunch wheatgrass, mountain
big sagebrush
Ecological site: R021XE176CA--Loam 12-16

Badenaugh and similar soils

Composition: 0 to 3 percent
Slope: 5 to 15 percent
Landform: Fan remnants
Typical vegetation: Green ephedra, big sagebrush,
bluebunch wheatgrass, Anderson peachbrush,
antelope bitterbrush, needlegrass
Ecological site: R026XF052CA--Granitic upland 9-12

Management

Major uses: Livestock grazing, juniper wood products
For information about managing this map unit, see the
following sections and associated tables in Part II of
this publication:

"Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

198--Fivesprings-Longcreek association, 9 to 30 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Mountains
 Elevation: 5,000 to 5,600
 Precipitation: 10 to 12 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Fivesprings very stony loam, 9 to 30 percent slopes--50 percent
 Longcreek very stony loam, 9 to 30 percent slopes--35 percent
 Rubble land, 15 to 30 percent slopes--5 percent
 Rock outcrop, 15 to 30 percent slopes--5 percent
 Brubeck very cobbly clay, 2 to 9 percent slopes--5 percent

Component Description

Fivesprings and similar soils

Landform: Backslopes of mountains
 Slope: 9 to 30 percent, south aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Thurber needlegrass, antelope bitterbrush, basin wildrye, mountain big sagebrush, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 15 percent cobbles, 20 percent stones
 Layer 1--0 to 3 inches; very stony loam
 Layer 2--3 to 8 inches; very gravelly clay loam
 Layer 3--8 to 23 inches; very gravelly clay
 Layer 4--23 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF082CA--Stony loam 9-12

Component Description

Longcreek and similar soils

Landform: Backslopes of mountains
 Slope: 9 to 30 percent, north aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Thurber needlegrass, mountain big sagebrush, bluebunch wheatgrass, basin wildrye, antelope bitterbrush

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15 percent stones
 Layer 1--0 to 3 inches; very stony loam
 Layer 2--3 to 7 inches; very cobbly clay loam
 Layer 3--7 to 18 inches; very cobbly clay
 Layer 4--18 to 28 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
 Permeability class (root zone): Slow
 Available water capacity: About 1.5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF082CA--Stony loam 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rubble land

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Ecological site: None assigned

Rock outcrop

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Ecological site: None assigned

Brubeck and similar soils

Composition: 0 to 5 percent

Slope: 2 to 9 percent

Landform: Plateaus

Typical vegetation: Thurber needlegrass, western wheatgrass, big sagebrush, rubber rabbitbrush, beardless wildrye, bottlebrush squirreltail, littleleaf horsebrush

Ecological site: R023XF084CA--Clay upland 9-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

199--Fivesprings-Longcreek association, 30 to 50 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Mountains

Elevation: 5,000 to 5,800

Precipitation: 10 to 12 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Fivesprings very stony loam, 30 to 50 percent slopes--50 percent

Longcreek very stony loam, 30 to 50 percent slopes--40 percent

Rock outcrop, 30 to 50 percent slopes--5 percent

Brubeck very cobbly clay, 30 to 50 percent slopes--5 percent

Component Description

Fivesprings and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Basin wildrye, Thurber needlegrass, antelope bitterbrush, mountain big sagebrush, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 15 percent cobbles, 20 percent stones

Layer 1--0 to 3 inches; very stony loam

Layer 2--3 to 8 inches; very gravelly clay loam

Layer 3--8 to 23 inches; very gravelly clay

Layer 4--23 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XF082CA--Stony loam 9-12

Component Description

Longcreek and similar soils

Landform: Backslopes of mountains, ridges

Slope: 30 to 50 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, Thurber needlegrass, antelope bitterbrush, basin wildrye, mountain big sagebrush

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15 percent stones

Layer 1--0 to 3 inches; very stony loam

Layer 2--3 to 7 inches; very cobbly clay loam

Layer 3--7 to 18 inches; very cobbly clay

Layer 4--18 to 28 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 1.5 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XF082CA--Stony loam 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 5 percent

Slope: 30 to 50 percent
 Landform: Mountains
 Ecological site: None assigned

Brubeck and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Plateaus
 Typical vegetation: Rubber rabbitbrush, western wheatgrass, big sagebrush, beardless wildrye, bottlebrush squirreltail, Thurber needlegrass, littleleaf horsebrush
 Ecological site: R023XF084CA--Clay upland 9-16

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

200--Fivesprings-Longcreek-Rubble land association, 9 to 50 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Mountains
 Elevation: 5,200 to 6,000
 Precipitation: 10 to 12 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Fivesprings very stony loam, 30 to 50 percent slopes--40 percent
 Longcreek very stony loam, 9 to 30 percent slopes--25 percent
 Rubble land fragmental material, 15 to 50 percent slopes--20 percent
 Rock outcrop, 15 to 50 percent slopes--5 percent
 Riverwash, 0 to 5 percent slopes--5 percent
 Devada very cobbly loam, 30 to 50 percent slopes--5 percent

Component Description

Fivesprings and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent, northwest to north aspects
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, basin wildrye, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 20 percent cobbles, 25 percent stones
 Layer 1--0 to 3 inches; very stony loam
 Layer 2--3 to 8 inches; very gravelly clay loam
 Layer 3--8 to 23 inches; very gravelly clay
 Layer 4--23 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XF082CA—Stony loam 9-12

Component Description

Longcreek and similar soils

Landform: Shoulders of mountains, backslopes of mountains
 Slope: 9 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, basin wildrye, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15 percent stones
 Layer 1--0 to 3 inches; very stony loam
 Layer 2--3 to 7 inches; very cobbly clay loam
 Layer 3--7 to 18 inches; very cobbly clay
 Layer 4--18 to 28 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches

Permeability class (root zone): Slow
 Available water capacity: About 1.5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF082CA--Stony loam 9-12

Component Description

Rubble land

Landform: Mountains
 Slope: 15 to 50 percent

Component Properties and Qualities

Runoff: Low
 Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 5 percent
 Slope: 15 to 50 percent
 Landform: Mountains
 Ecological site: None assigned

Riverwash

Composition: 0 to 5 percent
 Slope: 0 to 5 percent
 Landform: Channels
 Ecological site: None assigned

Devada and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Shoulders of mountains, backslopes of mountains
 Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, low sagebrush, bluegrass
 Ecological site: R023XF081CA--Shallow stony loam 9-12

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

201--Fivesprings-Rubble land-Devada association, 5 to 30 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Mountains
 Elevation: 4,700 to 5,600
 Precipitation: 10 to 12 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Fivesprings very stony loam, 5 to 30 percent slopes--40 percent
 Rubble land fragmental material, 5 to 30 percent slopes--25 percent
 Devada very cobbly loam, 5 to 30 percent slopes--20 percent
 Tunnison very cobbly clay, 5 to 9 percent slopes--5 percent
 Longcreek very stony loam, 30 to 50 percent slopes--5 percent
 Brubeck very cobbly clay, 15 to 30 percent slopes--5 percent

Component Description

Fivesprings and similar soils

Landform: Backslopes of mountains
 Slope: 5 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, antelope bitterbrush, basin wildrye, mountain big sagebrush

Typical profile:

Surface rock fragments: About 25 percent cobbles, 20 percent stones
 Layer 1--0 to 3 inches; very stony loam
 Layer 2--3 to 8 inches; very gravelly clay loam
 Layer 3--8 to 23 inches; very gravelly clay
 Layer 4--23 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XF082CA--Stony loam 9-12

Component Description**Rubble land**

Landform: Shoulders of mountains, backslopes of mountains

Slope: 5 to 30 percent

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8

Ecological site: None assigned

Component Description**Devada and similar soils**

Landform: Backslopes of mountains, shoulders of mountains

Slope: 5 to 30 percent

Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite

Typical vegetation: Thurber needlegrass, bluegrass, low sagebrush, bluebunch wheatgrass

Typical profile:

Layer 1--0 to 4 inches; very cobbly loam

Layer 2--4 to 13 inches; gravelly clay

Layer 3--13 to 23 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XF081CA--Shallow stony loam 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Tunnison very cobbly clay and similar soils**

Composition: 0 to 5 percent

Slope: 5 to 9 percent

Landform: Plateaus

Typical vegetation: Thurber needlegrass, littleleaf

horsebrush, bottlebrush squirreltail, beardless wildrye,

rubber rabbitbrush, big sagebrush, western wheatgrass

Ecological site: R023XF093CA--Shallow clay 9-16

Longcreek very stony loam and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Shoulders of mountains, backslopes of mountains

Typical vegetation: Basin wildrye, mountain big

sagebrush, Thurber needlegrass, antelope bitterbrush,

bluebunch wheatgrass

Ecological site: R023XF082CA--Stony loam 9-12

Brubeck very cobbly clay and similar soils

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Plateaus

Typical vegetation: Rubber rabbitbrush, western

wheatgrass, big sagebrush, beardless wildrye,

bottlebrush squirreltail, Thurber needlegrass, littleleaf

horsebrush

Ecological site: R023XF084CA--Clay upland 9-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

202--Fivesprings-Sumine association, 15 to 50 percent slopes**Map Unit Setting**

MLRA: 21

Landscape: Mountains

Elevation: 5,000 to 6,000

Precipitation: 10 to 12 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Fivesprings very stony loam, 15 to 30 percent slopes--50 percent

Sumine very stony loam, 30 to 50 percent slopes--35 percent

Devada very cobbly loam, 30 to 50 percent slopes--8 percent

Glean very gravelly loam, 15 to 50 percent slopes--7 percent

Component Description

Fivesprings and similar soils

Landform: Mountains

Slope: 15 to 30 percent, south aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Thurber needlegrass, antelope bitterbrush, mountain big sagebrush, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 15 percent cobbles, 20 percent stones

Layer 1--0 to 3 inches; very stony loam

Layer 2--3 to 8 inches; very gravelly clay loam

Layer 3--8 to 23 inches; very gravelly clay

Layer 4--23 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE179CA--Warm stony loam 12-16

Component Description

Sumine and similar soils

Landform: Mountains

Slope: 30 to 50 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Thurber needlegrass, antelope bitterbrush, Idaho fescue, basin wildrye

Typical profile:

Surface rock fragments: About 5 percent cobbles, 15 percent stones

Layer 1--0 to 10 inches; very stony loam

Layer 2--10 to 34 inches; very cobbly clay loam

Layer 3--34 to 38 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R021XE174CA--Stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada very cobbly loam and similar soils

Composition: 0 to 8 percent

Slope: 30 to 50 percent

Landform: Ridges

Typical vegetation: Idaho fescue, low sagebrush, bluebunch wheatgrass, bluegrass, antelope bitterbrush, Thurber needlegrass

Ecological site: R021XE173CA--Shallow stony loam 12-16

Glean very gravelly loam and similar soils

Composition: 0 to 7 percent

Slope: 15 to 50 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Mountain big sagebrush, Idaho fescue, bluebunch wheatgrass, antelope bitterbrush, needlegrass

Ecological site: R021XE176CA--Loam 12-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

203--Fluents-Riverwash complex, 0 to 1 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Alluvial plain

Elevation: 4,000 to 4,100
 Precipitation: 9 to 12 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Fluents stratified very fine sandy loam, 0 to 1 percent slopes--70 percent
 Riverwash extremely gravelly coarse sand, 0 to 1 percent slopes--20 percent
 Fortsage silt loam, 0 to 1 percent slopes--5 percent
 Lakeview loam, 0 to 1 percent slopes--5 percent

Component Description

Fluents and similar soils

Landform: Flood plains
 Slope: 0 to 1 percent
 Parent material: Stratified alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 4 inches; stratified very fine sandy loam
 Layer 2--4 to 60 inches; stratified coarse sand to loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low
 Permeability class (root zone): Moderate
 Available water capacity: About 5 inches
 Present flooding: Frequent
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Nonirrigated land capability: 8
 Ecological site: None assigned

Component Description

Riverwash

Landform: Channel
 Slope: 0 to 1 percent

Component Properties and Qualities

Runoff: Very high
 Water table: Present

Interpretive Groups

Nonirrigated land capability: 8
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Fortsage silt loam and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 1 percent
 Landform: Flood plains
 Ecological site: None assigned

Lakeview loam and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 1 percent
 Landform: Flood plains
 Ecological site: None assigned

Management

Major uses: Livestock grazing, wildlife habitat
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

204--Fordney loamy sand, 0 to 2 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Fan piedmont
 Elevation: 5,200 to 5,600
 Precipitation: 12 to 14 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Fordney loamy sand, 0 to 2 percent slopes--80 percent
 Fordney loamy sand, 2 to 4 percent slopes--5 percent
 Truax sandy loam, 0 to 2 percent slopes--5 percent
 Incy fine sand, 0 to 2 percent slopes--5 percent
 Beckwourth loamy sand, 0 to 2 percent slopes--5 percent

Component Description

Fordney and similar soils

Landform: Fan remnants
 Slope: 2 to 4 percent
 Parent material: Lacustrine deposits derived from tuff
 Typical vegetation: Beardless wildrye, Idaho fescue, antelope bitterbrush, needleandthread, mountain big sagebrush

Typical profile:

Layer 1--0 to 10 inches; loamy sand
 Layer 2--10 to 60 inches; loamy sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 7 inches
 Present flooding: None
 Natural drainage class: Excessively drained

Interpretive Groups

Irrigated land capability: 4e-1

Nonirrigated land capability: 6e
 Ecological site: R021XE180CA--Sandy loam fan 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Fordney loamy sand and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Fan remnants
 Typical vegetation: Basin big sagebrush, rabbitbrush, inland saltgrass, basin wildrye, black greasewood
 Ecological site: R023XG059CA--Saline-sodic loam 6-12

Truax sandy loam and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Fan remnants
 Typical vegetation: Thurber needlegrass, basin big sagebrush, basin wildrye, antelope bitterbrush, bottlebrush squirreltail, needleandthread
 Ecological site: R021XE186CA--Loamy terrace 12-16

Incy fine sand and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Dunes
 Typical vegetation: Western wheatgrass, Wyoming big sagebrush, needleandthread, sand dropseed, arrowleaf balsamroot, Indian ricegrass, antelope bitterbrush
 Ecological site: R026XF022CA--Granitic sand 9-12

Beckwourth loamy sand and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Stream terraces
 Ecological site: None assigned

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

205--Fordney loamy fine sand, 0 to 5 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 4,100 to 4,120
 Precipitation: 10 to 12 inches
 Air temperature: 47 to 49 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Fordney loamy fine sand, 0 to 5 percent slopes--80 percent
 Calpine sandy loam, 0 to 5 percent slopes--10 percent
 Fordney loamy fine sand, slightly saline, 0 to 5 percent slopes--5 percent

Component Description

Fordney and similar soils

Landform: Fan remnants
 Slope: 0 to 5 percent
 Parent material: Lacustrine deposits derived from tuff
 Typical vegetation: Mountain big sagebrush, beardless wildrye, Indian ricegrass, antelope bitterbrush, needleandthread

Typical profile:

Layer 1--0 to 10 inches; loamy fine sand
 Layer 2--10 to 62 inches; loamy fine sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 7 inches
 Present flooding: None
 Natural drainage class: Excessively drained

Interpretive Groups

Irrigated land capability: 3e-1
 Nonirrigated land capability: 6e
 Ecological site: R021XE181CA--Granitic fan 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Calpine and similar soils**

Composition: 0 to 10 percent

Slope: 0 to 5 percent

Landform: Alluvial fans

Typical vegetation: Beardless wildrye, Indian ricegrass, mountain big sagebrush, western needlegrass, antelope bitterbrush, needleandthread

Ecological site: R021XE181CA--Granitic fan 12-16

Fordney loamy fine sand and similar soils

Composition: 0 to 5 percent

Slope: 0 to 5 percent

Landform: Fan remnants

Typical vegetation: Inland saltgrass, black greasewood, basin big sagebrush, rabbitbrush, basin wildrye

Ecological site: R023XG059CA--Saline-sodic loam 6-12

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

206--Fordney loamy fine sand, wet, 0 to 2 percent slopes***Map Unit Setting***

MLRA: 23

Landscape: Fan piedmont

Elevation: 4,050 to 4,100

Precipitation: 10 to 12 inches

Air temperature: 47 to 49 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Fordney loamy fine sand wet, 0 to 2 percent slopes--80 percent

Orr sandy loam, 0 to 2 percent slopes--8 percent

Calpine sandy loam, 0 to 2 percent slopes--8 percent

Fordney loamy fine sand, 2 to 4 percent slopes--4 percent

Component Description**Fordney and similar soils**

Landform: Fan remnants

Slope: 0 to 2 percent

Parent material: Lacustrine deposits derived from tuff

Typical profile:

Layer 1--0 to 12 inches; loamy fine sand

Layer 2--12 to 62 inches; loamy fine sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low

Permeability class (root zone): Moderately rapid

Available water capacity: About 7 inches

Present flooding: None

Water table: Present

Natural drainage class: Excessively drained

Interpretive Groups

Irrigated land capability: 3e-2

Nonirrigated land capability: 6e-4

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Orr sandy loam and similar soils**

Composition: 0 to 8 percent

Slope: 0 to 2 percent

Landform: Fan remnants

Typical vegetation: Needleandthread, antelope bitterbrush, Anderson peachbrush, Indian ricegrass, yellow rabbitbrush, Wyoming big sagebrush, beardless wildrye

Ecological site: None assigned

Calpine and similar soils

Composition: 0 to 8 percent

Slope: 0 to 2 percent

Landform: Alluvial fans

Typical vegetation: Antelope bitterbrush, needleandthread, Indian ricegrass, mountain big sagebrush, western needlegrass, beardless wildrye

Ecological site: None assigned

Fordney loamy fine sand and similar soils

Composition: 0 to 4 percent

Slope: 2 to 4 percent

Landform: Fan remnants

Ecological site: None assigned

Management

Major uses: Irrigated crops, alfalfa hay, urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section
 "Soil Properties" section

207--Forgay very gravelly sandy loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Fan piedmont
 Elevation: 4,500 to 4,520
 Precipitation: 30 to 40 inches
 Air temperature: 44 to 48 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Forgay extremely gravelly sandy loam, 0 to 2 percent slopes--85 percent
 Mountmed clay loam, 0 to 2 percent slopes--8 percent
 Urban land, 0 to 2 percent slopes--7 percent

Component Description

Forgay and similar soils

Landform: Alluvial fans
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from mixed rocks
 Typical vegetation: Forest canopy--Jeffrey pine, lodgepole pine; Forest understory--other perennial grasses, greenleaf manzanita, lobbian ceanothus
 Site index: Jeffrey pine--100 at an age base of 100 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 68

Typical profile:

Layer 1--0 to 11 inches; extremely gravelly sandy loam
 Layer 2--11 to 40 inches; extremely gravelly coarse sandy loam
 Layer 3--40 to 60 inches; stratified extremely gravelly loamy coarse sand to very gravelly sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: Very low
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 2 inches
 Present flooding: None
 Water table: Present
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Mountmed clay loam and similar soils

Composition: 0 to 8 percent
 Slope: 0 to 2 percent
 Landform: Flood plains
 Ecological site: None assigned

Urban land

Composition: 0 to 7 percent
 Slope: 0 to 2 percent
 Landform: Alluvial fans
 Ecological site: None assigned

Management

Major uses: Timber production
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

208--Forgay extremely gravelly sandy loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Fan piedmont
 Elevation: 4,360 to 4,560
 Precipitation: 30 to 40 inches
 Air temperature: 44 to 48 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Forgay extremely gravelly sandy loam, 0 to 2 percent slopes--80 percent
 Urban land, 0 to 2 percent slopes--5 percent
 Forgay extremely gravelly sandy loam, 0 to 2 percent slopes, very stony--5 percent
 Riverwash extremely gravelly coarse sand, 0 to 2 percent slopes--5 percent
 Fluvents stratified very fine sandy loam, 0 to 2 percent slopes--5 percent

Component Description

Forgay and similar soils

Landform: Alluvial fans

Slope: 0 to 2 percent

Parent material: Alluvium derived from mixed rocks

Typical vegetation: Forest canopy--Jeffrey pine,

Forest understory--greenleaf manzanita, whitethorn
ceanothus, other perennial grasses

Site index: Jeffrey pine--75 at an age base of 100 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 49

Typical profile:

Layer 1--0 to 11 inches; extremely gravelly sandy loam

Layer 2--11 to 40 inches; extremely gravelly coarse sandy
loam

Layer 3--40 to 60 inches; stratified extremely gravelly
loamy coarse sand to very gravelly sandy loam

See "Chemical Properties of Soils" table and the "Physical
Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low

Permeability class (root zone): Moderately rapid

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics
are in the "Classification of the Soils" section.

Contrasting Inclusions

Urban land

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Alluvial fans

Ecological site: None assigned

Forgay and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Alluvial fans

Typical vegetation: Forest canopy--Jeffrey pine,

Forest understory--other perennial grasses, whitethorn
ceanothus, greenleaf manzanita

Ecological site: None assigned

Riverwash extremely gravelly coarse sand

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Channels

Ecological site: None assigned

Fluvents and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Flood plains

Ecological site: None assigned

Management

Major uses: Timber production, urban development

For information about managing this map unit, see the
following sections and associated tables in Part II of
this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

209--Fortsage fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 26

Landscape: Alluvial plain

Elevation: 4,320 to 4,330

Precipitation: 9 to 12 inches

Air temperature: 49 to 51 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Fortsage fine sandy loam, 0 to 2 percent slopes--90
percent

Truckee loam, 0 to 2 percent slopes--10 percent

Component Description

Fortsage and similar soils

Landform: Flood plains

Slope: 0 to 2 percent

Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 10 inches; fine sandy loam

Layer 2--10 to 60 inches; stratified fine sandy loam to silt
loam

See "Chemical Properties of Soils" table and the "Physical
Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low

Permeability class (root zone): Moderately rapid

Available water capacity: About 8 inches

Present flooding: Rare

Water table: Present
 Natural drainage class: Moderately well drained

Interpretive Groups

Irrigated land capability: 2e-1
 Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Truckee loam and similar soils

Composition: 0 to 10 percent
 Slope: 0 to 2 percent
 Landform: Flood plains
 Ecological site: None assigned

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

210--Fortsage silt loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 26
 Landscape: Alluvial plain
 Elevation: 4,320 to 4,340
 Precipitation: 9 to 12 inches
 Air temperature: 49 to 51 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Fortsage silt loam, 0 to 2 percent slopes--90 percent
 Riverwash extremely gravelly coarse sand, 0 to 2 percent slopes--10 percent

Component Description

Fortsage and similar soils

Landform: Flood plains
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 2 inches; silt loam
 Layer 2--2 to 60 inches; stratified fine sandy loam to silt loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 8 inches
 Present flooding: Frequent
 Water table: Present
 Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 6w
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Riverwash extremely gravelly coarse sand

Composition: 0 to 10 percent
 Slope: 0 to 2 percent
 Landform: Channels
 Ecological site: None assigned

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

211--Fraval-Fredonyer-Said association, 9 to 30 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Mountains
 Elevation: 5,600 to 5,800
 Precipitation: 16 to 20 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Fraval very gravelly loam, 9 to 30 percent slopes--40 percent
 Fredonyer very stony loam, 9 to 30 percent slopes--25 percent
 Said gravelly loam, 9 to 30 percent slopes--20 percent
 Keddie loam, 0 to 1 percent slopes--3 percent
 Rubble land, 15 to 30 percent slopes--2 percent

Rock outcrop, 15 to 30 percent slopes--2 percent
 Searles very stony loam, 15 to 30 percent slopes--2 percent
 Petescreek gravelly loam, 15 to 30 percent slopes--2 percent
 Ninemile very stony loam, 5 to 15 percent slopes--2 percent
 Orhood very stony sandy loam, 15 to 30 percent slopes--2 percent

Component Description

Fraaval and similar soils

Landform: Backslopes of mountains
 Slope: 9 to 30 percent
 Parent material: Colluvium derived from tuff and andesite and residuum weathered from andesite or tuff
 Typical vegetation: Forest canopy--Jeffrey pine, Forest understory--Columbia needlegrass, bottlebrush squirreltail, Idaho fescue, curleaf mountain mahogany, sedge, mountain big sagebrush
 Site index: Jeffrey pine--73 at an age base of 100 years
 Additional forest note: Dunning site class: IV
 Additional forest note: Cactus site index: 44

Typical profile:

Layer 1--0 to 14 inches; very gravelly loam
 Layer 2--14 to 34 inches; very gravelly loam
 Layer 3--34 to 40 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 3 inches thick
 Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: None assigned

Component Description

Fredonyer and similar soils

Landform: Ridges
 Slope: 9 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Mountain big sagebrush, curleaf mountain mahogany, Idaho fescue

Typical profile:

Surface rock fragments: About 5 percent cobbles, 12 percent stones
 Layer 1--0 to 4 inches; very stony loam
 Layer 2--4 to 12 inches; very gravelly loam
 Layer 3--12 to 28 inches; very cobbly loam
 Layer 4--28 to 38 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE178CA--Very stony loam 12-16

Component Description

Said and similar soils

Landform: Backslopes of mountains
 Slope: 9 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--whitethorn ceanothus, squawcarpet, mountain big sagebrush, manzanita, snowberry, Columbia needlegrass, Idaho fescue
 Site index: Jeffrey pine--83 at an age base of 100 years
 Site index: White fir--53 at an age base of 50 years
 Additional forest note: Dunning site class: III
 Additional forest note: Cactus site index: 49

Typical profile:

Layer 1--0 to 13 inches; gravelly loam
 Layer 2--13 to 26 inches; gravelly loam
 Layer 3--26 to 37 inches; very gravelly clay loam
 Layer 4--37 to 56 inches; very cobbly clay loam
 Layer 5--56 to 66 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 2 inches thick
 Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Permeability class (root zone): Moderately slow
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Keddie loam and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 1 percent
 Landform: Alluvial fans
 Ecological site: None assigned

Rubble land

Composition: 0 to 2 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Ecological site: None assigned

Rock outcrop

Composition: 0 to 2 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Ecological site: None assigned

Searles very stony loam and similar soils

Composition: 0 to 2 percent
 Slope: 15 to 30 percent, south aspect
 Landform: Backslopes of mountains
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, Thurber needlegrass
 Ecological site: R021XE179CA--Warm stony loam 12-16

Petescreek gravelly loam and similar soils

Composition: 0 to 2 percent
 Slope: 15 to 30 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Antelope bitterbrush, Idaho fescue, bluebunch wheatgrass, needlegrass, mountain big sagebrush
 Ecological site: R021XE176CA--Loam 12-16

Ninemile very stony loam and similar soils

Composition: 0 to 2 percent
 Slope: 5 to 15 percent
 Landform: Plateaus

Typical vegetation: Bluegrass, bluebunch wheatgrass, low sagebrush, balsamroot, Idaho fescue, antelope bitterbrush, bottlebrush squirreltail, Thurber needlegrass

Ecological site: R021XE173CA

Orhood very stony sandy loam and similar soils

Composition: 0 to 2 percent
 Slope: 15 to 30 percent
 Landform: Toeslopes of mountains
 Typical vegetation: Forest canopy--western juniper, Forest understory--arrowleaf balsamroot, Sandberg bluegrass, antelope bitterbrush, Idaho fescue, Lemmon needlegrass, rabbitbrush, mountain big sagebrush, bluebunch wheatgrass, Thurber needlegrass
 Ecological site: R021XE174CA--Stony loam 12-16

Management

Major uses: Timber production
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

212--Fraval-Said complex, 5 to 30 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Mountains
 Elevation: 5,600 to 6,500
 Precipitation: 16 to 20 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Fraval very gravelly loam, 5 to 30 percent slopes--60 percent
 Said gravelly loam, 5 to 30 percent slopes--30 percent
 Rock outcrop, 15 to 30 percent slopes--5 percent
 Fredonyer very stony loam, 5 to 30 percent slopes--3 percent
 Ninemile very stony loam, 5 to 15 percent slopes--2 percent

Component Description

Fraval and similar soils

Landform: Backslopes of mountains
 Slope: 5 to 30 percent

Parent material: Colluvium derived from tuff and andesite and residuum weathered from andesite or tuff
 Typical vegetation: Forest canopy--Jeffrey pine,
 Forest understory--Columbia needlegrass, curleaf mountain mahogany, Idaho fescue, bottlebrush squirreltail, sedge, mountain big sagebrush
 Site index: Jeffrey pine--73 at an age base of 100 years
 Additional forest note: Dunning site class: IV
 Additional forest note: Cactus site index: 44

Typical profile:

Layer 1--0 to 14 inches; very gravelly loam
 Layer 2--14 to 34 inches; very gravelly loam
 Layer 3--34 to 40 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 3 inches thick
 Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: None assigned

Component Description

Said and similar soils

Landform: Backslopes of mountains
 Slope: 5 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--mountain big sagebrush, manzanita, whitethorn ceanothus, squawcarpet, Idaho fescue, Columbia needlegrass, snowberry
 Site index: Jeffrey pine--83 at an age base of 100 years
 Site index: White fir--53 at an age base of 50 years
 Additional forest note: Dunning site class: III
 Additional forest note: Cactus site index: 49

Typical profile:

Layer 1--0 to 13 inches; gravelly loam
 Layer 2--13 to 27 inches; gravelly loam
 Layer 3--27 to 38 inches; very gravelly clay loam
 Layer 4--38 to 57 inches; very cobbly clay loam
 Layer 5--57 to 67 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 2 inches thick
 Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Ecological site: None assigned

Fredonyer very stony loam and similar soils

Composition: 0 to 3 percent
 Slope: 5 to 30 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Idaho fescue, curleaf mountain mahogany, mountain big sagebrush
 Ecological site: R021XE178CA--Very stony loam 12-16

Ninemile very stony loam and similar soils

Composition: 0 to 2 percent
 Slope: 5 to 15 percent
 Landform: Plateaus
 Typical vegetation: Thurber needlegrass, balsamroot, bottlebrush squirreltail, antelope bitterbrush, bluegrass, bluebunch wheatgrass, Idaho fescue, low sagebrush
 Ecological site: R021XE173CA

Management

Major uses: Timber production, livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

213--Fredonyer-Whitinger-Orhood association, 30 to 50 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 5,800 to 6,400
 Precipitation: 12 to 16 inches
 Air temperature: 44 to 46 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Fredonyer very stony loam, 30 to 50 percent slopes--45 percent
 Whitinger very stony loam, 30 to 50 percent slopes--25 percent
 Orhood very stony loam, 30 to 50 percent slopes--15 percent
 Badenaugh stony sandy loam, 30 to 50 percent slopes--3 percent
 Rubble land, 30 to 50 percent slopes--2 percent
 Rock outcrop, 30 to 50 percent slopes--2 percent
 Searles very stony loam, 30 to 50 percent slopes--2 percent
 Petescreek very gravelly loam, 15 to 30 percent slopes--2 percent
 Hapgood stony loam, 15 to 30 percent slopes--2 percent
 Fiddler very stony loam, 30 to 50 percent slopes--2 percent

Component Description

Fredonyer and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent, north aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Curleaf mountain mahogany, Idaho fescue, mountain big sagebrush

Typical profile:

Surface rock fragments: About 10 percent cobbles, 5 percent stones
 Layer 1--0 to 4 inches; very stony loam
 Layer 2--4 to 12 inches; very gravelly loam
 Layer 3--12 to 28 inches; very cobbly loam
 Layer 4--28 to 32 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderate

Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R021XE178CA--Very stony loam 12-16

Component Description

Whitinger and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent, south aspect
 Parent material: Colluvium derived from basalt and residuum weathered from basalt
 Typical vegetation: Forest canopy--western juniper, Forest understory--needlegrass, antelope bitterbrush, Idaho fescue, bluebunch wheatgrass, mountain big sagebrush
 Site index: Western juniper--25 at an age base of 50 years

Typical profile:

Surface rock fragments: About 20 percent cobbles, 12 percent stones
 Layer 1--0 to 6 inches; very stony loam
 Layer 2--6 to 15 inches; very stony clay loam
 Layer 3--15 to 26 inches; very cobbly clay loam
 Layer 4--26 to 36 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R021XE174CA--Stony loam 12-16

Component Description

Orhood and similar soils

Landform: Ridges
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--western juniper, Forest understory--bluebunch wheatgrass, arrowleaf balsamroot, Idaho fescue, Lemmon needlegrass, rabbitbrush, Thurber needlegrass, antelope bitterbrush, Sandberg bluegrass, mountain big sagebrush

Site index: Western juniper--26 at an age base of 50 years

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15 percent stones

Layer 1--0 to 4 inches; very stony loam

Layer 2--4 to 9 inches; very cobbly loam

Layer 3--9 to 19 inches; very cobbly clay loam

Layer 4--19 to 23 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R021XE174CA--Stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Badenaugh stony sandy loam and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent

Landform: Fan remnants

Typical vegetation: Bluebunch wheatgrass, big sagebrush, green ephedra, antelope bitterbrush, needlegrass, Anderson peachbrush

Ecological site: R026XF052CA--Granitic upland 9-12

Rubble land

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Mountains

Ecological site: None assigned

Rock outcrop

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Mountains

Ecological site: None assigned

Searles very stony loam and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent, south aspect

Landform: Backslopes of mountains

Typical vegetation: Bluebunch wheatgrass, antelope bitterbrush, mountain big sagebrush, Thurber needlegrass

Ecological site: R021XE179CA--Warm stony loam 12-16

Petescreek very gravelly loam and similar soils

Composition: 0 to 2 percent

Slope: 15 to 30 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Needlegrass, bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush

Ecological site: R021XE176CA--Loam 12-16

Hapgood stony loam and similar soils

Composition: 0 to 2 percent

Slope: 15 to 30 percent, north aspect

Landform: Backslopes of mountains, ridges

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Thurber needlegrass, antelope bitterbrush, lupine, arrowleaf balsamroot, basin wildrye, Idaho fescue

Ecological site: R021XE044CA

Fiddler very stony loam and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent, south aspect

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--western juniper, Forest understory--rabbitbrush, bluebunch wheatgrass, Nevada bluegrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, arrowleaf balsamroot, Thurber needlegrass, bottlebrush squirreltail, Sandberg bluegrass

Ecological site: R021XE174CA--Stony loam 12-16

Management

Major uses: Livestock grazing, juniper wood products
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

214--Fulstone-Wylo association, 2 to 30 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Fan piedmonts

Elevation: 4,600 to 5,000

Precipitation: 8 to 10 inches

Air temperature: 47 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Fulstone very cobbly loam, 2 to 9 percent slopes--70 percent

Wylo very stony loam, 9 to 30 percent slopes--20 percent

Longcreek very cobbly loam, 9 to 30 percent slopes--3 percent

Loomis very cobbly loam, 9 to 30 percent slopes--3 percent

Rock outcrop, 15 to 30 percent slopes--2 percent

Brubeck very cobbly clay, 15 to 30 percent slopes--2 percent

Component Description

Fulstone and similar soils

Landform: Fan remnants

Slope: 2 to 9 percent

Parent material: Alluvium derived from mixed rocks

Typical vegetation: Lahontan sagebrush, bluebunch wheatgrass, Thurber needlegrass

Typical profile:

Surface rock fragments: About 30 percent cobbles

Layer 1--0 to 2 inches; very cobbly loam

Layer 2--2 to 14 inches; gravelly clay

Layer 3--14 to 60 inches; indurated

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Duripan: 14 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XF083CA--Shallow stony clay loam 9-12

Component Description

Wylo and similar soils

Landform: Backslopes of plateaus, summits of plateaus

Slope: 9 to 30 percent

Parent material: Colluvium derived from basalt and residuum weathered from basalt

Typical vegetation: Lahontan sagebrush, bluebunch wheatgrass, Thurber needlegrass

Typical profile:

Surface rock fragments: About 15 percent cobbles, 15 percent stones

Layer 1--0 to 7 inches; very stony loam

Layer 2--7 to 11 inches; gravelly clay loam

Layer 3--11 to 15 inches; cobbly clay

Layer 4--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XF083CA--Shallow stony clay loam 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Longcreek very cobbly loam and similar soils

Composition: 0 to 3 percent

Slope: 9 to 30 percent

Landform: Plateaus

Typical vegetation: Thurber needlegrass, basin wildrye, mountain big sagebrush, bluebunch wheatgrass, antelope bitterbrush

Ecological site: R023XF082CA--Stony loam 9-12

Loomis very cobbly loam and similar soils

Composition: 0 to 3 percent

Slope: 9 to 30 percent

Landform: Plateaus

Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, black sagebrush, Sandberg bluegrass, bottlebrush squirreltail

Ecological site: R023XF087CA--Very shallow stony loam 9-12

Rock outcrop

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Plateaus

Ecological site: None assigned

Brubeck very cobbly clay and similar soils

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Plateaus

Typical vegetation: Western wheatgrass, littleleaf horsebrush, Thurber needlegrass, bottlebrush squirreltail, beardless wildrye, rubber rabbitbrush, big sagebrush

Ecological site: R023XF084CA--Clay upland 9-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

215--Galeppi sandy loam, 2 to 5 percent slopes**Map Unit Setting**

MLRA: 26

Landscape: Fan piedmont

Elevation: 4,000 to 4,300

Precipitation: 9 to 12 inches

Air temperature: 48 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Galeppi sandy loam, 2 to 5 percent slopes--80 percent

Springmeyer loam, 2 to 5 percent slopes--5 percent

Mottsville gravelly loamy coarse sand, 2 to 5 percent slopes--5 percent

Modoc sandy loam, 2 to 5 percent slopes--5 percent

Calpine sandy loam, 2 to 5 percent slopes--5 percent

Component Description**Galeppi and similar soils**

Landform: Fan remnants

Slope: 2 to 5 percent

Parent material: Alluvium derived from granite

Typical vegetation: Indian ricegrass, Wyoming big sagebrush, rubber rabbitbrush, beardless wildrye, Anderson peachbrush, needleandthread, antelope bitterbrush

Typical profile:

Layer 1--0 to 18 inches; sandy loam

Layer 2--18 to 36 inches; sandy clay loam

Layer 3--36 to 52 inches; sandy loam

Layer 4--52 to 60 inches; loamy sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium

Permeability class (root zone): Moderately slow

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e-1

Nonirrigated land capability: 6e

Ecological site: R026XF051CA--Granitic fan 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Springmeyer loam and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 5 percent

Landform: Fans remnants

Typical vegetation: Basin wildrye, Thurber needlegrass, needleandthread, big sagebrush

Ecological site: R023XF091CA--Loamy upland 9-12

Mottsville gravelly loamy coarse sand and similar soils

Composition: 0 to 5 percent

Slope: 2 to 5 percent

Landform: Fan remnants

Typical vegetation: Bottlebrush squirreltail, basin big sagebrush, desert needlegrass, desert peach, needleandthread, antelope bitterbrush, Indian ricegrass

Ecological site: R026XF051CA--Granitic fan 9-12

Modoc and similar soils

Composition: 0 to 5 percent

Slope: 2 to 5 percent

Landform: Fan remnants

Typical vegetation: Bluebunch wheatgrass, basin big sagebrush, Idaho fescue, basin wildrye

Ecological site: R021XE186CA--Loamy terrace 12-16

Calpine and similar soils

Composition: 0 to 5 percent

Slope: 2 to 5 percent

Landform: Alluvial fans

Typical vegetation: Needleandthread, antelope bitterbrush, Indian ricegrass, beardless wildrye, western needlegrass, mountain big sagebrush

Ecological site: R021XE181CA--Granitic fan 12-16

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing, wildlife habitat, and urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

216--Galeppi sandy loam, 5 to 30 percent slopes**Map Unit Setting**

MLRA: 26

Landscape: Fan piedmont

Elevation: 4,400 to 4,800

Precipitation: 9 to 12 inches

Air temperature: 48 to 50 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Galeppi sandy loam, 5 to 30 percent slopes--80 percent

Indiano gravelly sandy loam, 5 to 30 percent slopes--5 percent

Glenbrook gravelly loamy coarse sand, 5 to 30 percent slopes--5 percent

Barnard stony sandy loam, 5 to 15 percent slopes--5 percent

Calpine sandy loam, 5 to 15 percent slopes--5 percent

Component Description**Galeppi and similar soils**

Landform: Fan remnants

Slope: 5 to 30 percent

Parent material: Alluvium derived from granite

Typical vegetation: Wyoming big sagebrush, needlegrass, bluebunch wheatgrass, green ephedra, Anderson peachbrush, antelope bitterbrush

Typical profile:

Layer 1--0 to 18 inches; sandy loam

Layer 2--18 to 36 inches; sandy clay loam

Layer 3--36 to 52 inches; sandy loam

Layer 4--52 to 60 inches; loamy sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Moderately slow

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3e-1

Nonirrigated land capability: 6e

Ecological site: R026XF052CA--Granitic upland 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Indiano gravelly sandy loam and similar soils**

Composition: 0 to 5 percent

Slope: 5 to 30 percent, south aspect

Landform: Backslopes of hills

Typical vegetation: Thurber needlegrass, bottlebrush squirreltail, antelope bitterbrush, other perennial grasses, other perennial forbs, Sandberg bluegrass, Indian ricegrass, Wyoming big sagebrush, other shrubs, basin wildrye

Ecological site: R026XF052CA--Granitic upland 9-12

Glenbrook and similar soils

Composition: 0 to 5 percent

Slope: 5 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Yellow rabbitbrush, green ephedra, other perennial forbs, other perennial grasses, antelope bitterbrush, bottlebrush squirreltail, desert needlegrass, Thurber needlegrass, big sagebrush, other shrubs

Ecological site: R026XF053CA--Shallow granitic upland 9-12

Barnard stony sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 5 to 15 percent

Landform: Fan remnants

Typical vegetation: Bluebunch wheatgrass, Wyoming big sagebrush, basin wildrye, antelope bitterbrush, Thurber needlegrass

Ecological site: R023XF082CA--Stony loam 9-12

Calpine and similar soils

Composition: 0 to 5 percent

Slope: 5 to 15 percent

Landform: Alluvial fans

Typical vegetation: Mountain big sagebrush, beardless wildrye, western needlegrass, needleandthread, antelope bitterbrush, Indian ricegrass

Ecological site: R021XE181CA--Granitic fan 12-16

Management

Major uses: Livestock grazing, urban development
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" section
"Soil Properties" section

217--Galeppi-Glenbrook complex, 5 to 15 percent slopes

Map Unit Setting

MLRA: 26
Landscape: Fan piedmont
Elevation: 4,400 to 4,500
Precipitation: 10 to 15 inches
Air temperature: 48 to 50 degrees Fahrenheit
Frost-free period: 80 to 110 days

Composition

Galeppi loamy sand, 5 to 15 percent slopes--65 percent
Glenbrook sand, 5 to 15 percent slopes--15 percent
Calpine sandy loam, 5 to 15 percent slopes--8 percent
Rock outcrop, 9 to 15 percent slopes--6 percent
Mottsville gravelly loamy coarse sand, 5 to 15 percent slopes--6 percent

Component Description

Galeppi and similar soils

Landform: Fan remnants
Slope: 5 to 15 percent
Parent material: Alluvium derived from granite
Typical vegetation: Antelope bitterbrush, Anderson peachbrush, green ephedra, Wyoming big sagebrush, needlegrass, bluebunch wheatgrass

Typical profile:

Layer 1--0 to 18 inches; loamy sand
Layer 2--18 to 36 inches; sandy clay loam
Layer 3--36 to 52 inches; sandy loam
Layer 4--52 to 60 inches; loamy sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
Permeability class (root zone): Moderately slow
Available water capacity: About 6 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 4e-1
Nonirrigated land capability: 6s
Ecological site: R026XF052CA

Component Description

Glenbrook and similar soils

Landform: Hill
Slope: 5 to 15 percent
Parent material: Residuum weathered from granite
Typical vegetation: Bottlebrush squirreltail, other perennial grasses, yellow rabbitbrush, Thurber needlegrass, antelope bitterbrush, desert needlegrass, green ephedra, other shrubs, big sagebrush, other perennial forbs

Typical profile:

Layer 1--0 to 3 inches; sand
Layer 2--3 to 12 inches; gravelly sand
Layer 3--12 to 16 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low
Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches
Permeability class (root zone): Rapid
Available water capacity: About 0.7 inch
Present flooding: None
Natural drainage class: Somewhat excessively drained

Interpretive Groups

Irrigated land capability: 4e-1
Nonirrigated land capability: 6s
Ecological site: R026XF053CA--Shallow granitic upland 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Calpine and similar soils

Composition: 0 to 8 percent
Slope: 5 to 15 percent
Landform: Alluvial fans
Typical vegetation: Western needlegrass, mountain big sagebrush, beardless wildrye, needleandthread, antelope bitterbrush, Indian ricegrass
Ecological site: R021XE181CA--Granitic fan 12-16

Rock outcrop

Composition: 0 to 6 percent

Slope: 9 to 15 percent
 Landform: Rock pediments
 Ecological site: None assigned

Mottsville gravelly loamy coarse sand and similar soils

Composition: 0 to 6 percent
 Slope: 5 to 15 percent
 Landform: Fan remnants
 Typical vegetation: Needleandthread, desert peach, desert needlegrass, basin big sagebrush, bottlebrush squirreltail, Indian ricegrass, antelope bitterbrush
 Ecological site: R026XF051CA--Granitic fan 9-12

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

218--Gavel stony loam, 5 to 30 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Mountains
 Elevation: 4,800 to 5,400
 Precipitation: 16 to 20 inches
 Air temperature: 44 to 46 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Gavel gravelly loam, 5 to 30 percent slopes--85 percent
 Devada very cobbly loam, 15 to 30 percent slopes--8 percent
 Searles very stony loam, 15 to 30 percent slopes--7 percent

Component Description

Gavel and similar soils

Landform: Mountains
 Slope: 5 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, western juniper; Forest understory--mountain big sagebrush, bottlebrush squirreltail, Idaho fescue, sedge, curlleaf mountain mahogany, Columbia needlegrass
 Site index: Jeffrey pine--71 at an age base of 100 years
 Additional forest note: Dunning site class: IV

Additional forest note: Cactus site index: 50

Typical profile:

Surface rock fragments: About 10 percent cobbles, 3 percent stones
 Layer 1--0 to 4 inches; gravelly loam
 Layer 2--4 to 26 inches; very gravelly loam
 Layer 3--26 to 70 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada very cobbly loam and similar soils

Composition: 0 to 8 percent
 Slope: 15 to 30 percent
 Landform: Ridges
 Typical vegetation: Thurber needlegrass, Idaho fescue, low sagebrush, bluebunch wheatgrass, antelope bitterbrush, bluegrass
 Ecological site: R021XE173CA--Shallow stony loam 12-16

Searles very stony loam and similar soils

Composition: 0 to 7 percent
 Slope: 15 to 30 percent, south aspect
 Landform: Backslopes of mountains
 Typical vegetation: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush, Thurber needlegrass
 Ecological site: R021XE179CA--Warm stony loam 12-16

Management

Major uses: Timber production, livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section

"Forest land" section
 "Engineering" section
 "Soil Properties" section

219--Gavel-Devada complex, 30 to 50 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Mountains
 Elevation: 5,600 to 5,800
 Precipitation: 20 to 25 inches
 Air temperature: 45 to 46 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Gavel very cobbly sandy loam, 30 to 50 percent slopes--55 percent
 Devada very cobbly loam, 30 to 50 percent slopes--35 percent
 Devada very cobbly loam, 50 to 70 percent slopes--10 percent

Component Description

Gavel and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, western juniper; Forest understory--Idaho fescue, bottlebrush squirreltail, Columbia needlegrass, mountain big sagebrush, curlleaf mountain mahogany, sedge
 Site index: Jeffrey pine--71 at an age base of 100 years

Typical profile:

Surface rock fragments: About 5 percent cobbles, 20 percent stones
 Layer 1--0 to 12 inches; very cobbly sandy loam
 Layer 2--12 to 27 inches; very gravelly loam
 Layer 3--27 to 37 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 2 inches
 Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: None assigned

Component Description

Devada and similar soils

Landform: Ridges
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite
 Typical vegetation: Thurber needlegrass, antelope bitterbrush, bluegrass, bluebunch wheatgrass, low sagebrush, Idaho fescue

Typical profile:

Surface rock fragments: About 25 percent cobbles, 10 percent stones
 Layer 1--0 to 7 inches; very cobbly loam
 Layer 2--7 to 15 inches; gravelly clay
 Layer 3--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R021XE173CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada very cobbly loam and similar soils

Composition: 0 to 10 percent
 Slope: 50 to 70 percent
 Landform: Ridges
 Typical vegetation: Thurber needlegrass, antelope bitterbrush, bluebunch wheatgrass, low sagebrush, Idaho fescue, bluegrass
 Ecological site: R021XE173CA--Shallow stony loam 12-16

Management

Major uses: Timber production, livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

220--Gerlach silty clay, 2 to 9 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Basin
 Elevation: 4,400 to 4,600
 Precipitation: 9 to 12 inches
 Air temperature: 45 to 49 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Gerlach silty clay, 2 to 9 percent slopes--80 percent
 Devada very stony loam, 2 to 9 percent slopes--5 percent
 Cleghorn sandy loam, 2 to 5 percent slopes--5 percent
 Ravendale silty clay, 0 to 2 percent slopes--4 percent
 Longcreek very cobbly loam, 2 to 9 percent slopes--4 percent
 Termo silty clay, 0 to 2 percent slopes--2 percent

Component Description

Gerlach silty clay and similar soils

Landform: Alluvial flats
 Slope: 2 to 9 percent
 Parent material: Alluvium derived from volcanic rock
 Typical vegetation: Bottlebrush squirreltail, beardless wildrye, rubber rabbitbrush, big sagebrush, littleleaf horsebrush, western wheatgrass, Thurber needlegrass

Typical profile:

Layer 1--0 to 3 inches; silty clay
 Layer 2--3 to 52 inches; silty clay
 Layer 3--52 to 60 inches; clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Permeability class (root zone): Slow
 Available water capacity: About 9 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3e-3
 Nonirrigated land capability: 6e

Ecological site: R023XF084CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada very stony loam and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 9 percent
 Landform: Plateaus
 Typical vegetation: Thurber needlegrass, bluegrass, low sagebrush, bluebunch wheatgrass
 Ecological site: R023XF081CA--Shallow stony loam 9-12

Cleghorn sandy loam and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 5 percent
 Landform: Fan terraces
 Typical vegetation: Thurber needlegrass, needleandthread, Wyoming big sagebrush, basin wildrye
 Ecological site: R023XF091CA

Ravendale silty clay and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Basin floors
 Typical vegetation: Nevada bluegrass, beardless wildrye, silver sagebrush, western wheatgrass
 Ecological site: R023XF092CA--Clay floodplain 9-16

Longcreek very cobbly loam and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 9 percent
 Landform: Plateaus
 Typical vegetation: Bluebunch wheatgrass, basin wildrye, antelope bitterbrush, Thurber needlegrass, mountain big sagebrush
 Ecological site: R023XF082CA--Stony loam 9-12

Termo silty clay and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Shadscale, rubber rabbitbrush, basin wildrye, big sagebrush, spiny hopsage, Sandberg bluegrass, black greasewood, bottlebrush squirreltail
 Ecological site: R023XF089CA--Sodic flat 9-12

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section

"Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

221--Gerlach cobbly silty clay, 2 to 9 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Basin
 Elevation: 4,500 to 4,700
 Precipitation: 9 to 12 inches
 Air temperature: 45 to 49 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Gerlach cobbly silty clay, 2 to 9 percent slopes--80 percent
 Ravendale silty clay, 0 to 2 percent slopes--5 percent
 Longcreek very cobbly loam, 2 to 9 percent slopes--5 percent
 Devada very stony loam, 2 to 9 percent slopes--5 percent
 Cleghorn sandy loam, 2 to 5 percent slopes--5 percent

Component Description

Gerlach and similar soils

Landform: Alluvial flats
 Slope: 2 to 9 percent
 Parent material: Alluvium derived from volcanic rock
 Typical vegetation: Littleleaf horsebrush, Thurber needlegrass, bottlebrush squirreltail, beardless wildrye, rubber rabbitbrush, big sagebrush, western wheatgrass

Typical profile:

Layer 1--0 to 3 inches; cobbly silty clay
 Layer 2--3 to 52 inches; silty clay
 Layer 3--52 to 60 inches; clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Permeability class (root zone): Slow
 Available water capacity: About 9 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R023XF084CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Ravendale silty clay and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Basin floors
 Typical vegetation: Beardless wildrye, western wheatgrass, silver sagebrush, Nevada bluegrass
 Ecological site: R023XF092CA

Longcreek very cobbly loam and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 9 percent
 Landform: Plateaus
 Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, mountain big sagebrush, basin wildrye, antelope bitterbrush
 Ecological site: R023XF082CA--Stony loam 9-12

Devada very stony loam and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 9 percent
 Landform: Plateaus
 Typical vegetation: Bluegrass, Thurber needlegrass, low sagebrush, bluebunch wheatgrass
 Ecological site: R023XF081CA--Shallow stony loam 9-12

Cleghorn sandy loam and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 5 percent
 Landform: Fan remnants
 Typical vegetation: Wyoming big sagebrush, basin wildrye, needleandthread, Thurber needlegrass
 Ecological site: R023XF091CA--Loamy upland 9-12

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

222--Gerlach-Ravendale complex, 0 to 4 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Basin
 Elevation: 4,400 to 5,400
 Precipitation: 9 to 12 inches
 Air temperature: 45 to 49 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Gerlach silty clay, 2 to 4 percent slopes--45 percent
 Ravendale silty clay, 0 to 2 percent slopes--40 percent
 Corral sandy loam, 0 to 5 percent slopes--8 percent
 Termo silty clay, 0 to 2 percent slopes--7 percent

Component Description**Gerlach and similar soils**

Landform: Alluvial flats
 Slope: 2 to 4 percent
 Parent material: Alluvium derived from volcanic rock
 Typical vegetation: Big sagebrush, bottlebrush squirreltail,
 black greasewood, spiny hopsage, saltbush

Typical profile:

Layer 1--0 to 3 inches; silty clay
 Layer 2--3 to 52 inches; silty clay
 Layer 3--52 to 60 inches; clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Permeability class (root zone): Slow
 Available water capacity: About 9 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 4w-2
 Nonirrigated land capability: 6w
 Ecological site: R023XF085CA

Component Description**Ravendale and similar soils**

Landform: Basin floors
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from volcanic rock
 Typical vegetation: Nevada bluegrass, western
 wheatgrass, silver sagebrush, beardless wildrye

Typical profile:

Layer 1--0 to 16 inches; silty clay
 Layer 2--16 to 48 inches; silty clay
 Layer 3--48 to 60 inches; silty clay

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Permeability class (root zone): Slow
 Available water capacity: About 9 inches
 Present flooding: Occasional

Natural drainage class: Moderately well drained

Interpretive Groups

Irrigated land capability: 4w-2
 Nonirrigated land capability: 6w
 Ecological site: R023XF092CA--Clay floodplain 9-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Corral sandy loam and similar soils**

Composition: 0 to 8 percent
 Slope: 0 to 5 percent
 Landform: Rock pediments
 Typical vegetation: Thurber needlegrass, basin wildrye,
 big sagebrush, needleandthread
 Ecological site: R023XF091CA--Loamy upland 9-12

Termo silty clay and similar soils

Composition: 0 to 7 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Black greasewood, big sagebrush,
 shadscale, bottlebrush squirreltail, Sandberg
 bluegrass, spiny hopsage, basin wildrye, rubber
 rabbitbrush
 Ecological site: R023XF089CA--Sodic flat 9-12

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing
 For information about managing this map unit, see the
 following sections and associated tables in Part II of
 this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

223--Gerle sandy loam, 2 to 5 percent slopes**Map Unit Setting**

MLRA: 22
 Landscape: Alluvial plain
 Elevation: 5,120 to 5,160
 Precipitation: 25 to 30 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Gerle gravelly sandy loam, 2 to 4 percent slopes--90
 percent
 Gerle gravelly sandy loam, 2 to 5 percent slopes, very
 stony--5 percent

Gerle gravelly sandy loam, 0 to 2 percent slopes--5 percent

Component Description

Gerle and similar soils

Landform: Outwash plains

Slope: 2 to 4 percent

Parent material: Outwash derived from granite

Typical vegetation: Forest canopy--Jeffrey pine,

Forest understory--currant, chinkapin, whitethorn

ceanothus, western brackenfern, huckleberry oak

Site index: Jeffrey pine--105 at an age base of 100 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 68

Typical profile:

Layer 1--0 to 13 inches; gravelly sandy loam

Layer 2--13 to 72 inches; sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: Very low

Permeability class (root zone): Moderately rapid

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 4e-4

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Gerle gravelly sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 2 to 5 percent

Landform: Outwash plains

Typical vegetation: Forest canopy--Jeffrey pine,

Forest understory--chinkapin, whitethorn ceanothus, western brackenfern, huckleberry oak, currant

Ecological site: None assigned

Gerle and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Outwash plains

Typical vegetation: Forest canopy--Jeffrey pine,

Forest understory--currant, western brackenfern, whitethorn ceanothus, chinkapin, huckleberry oak

Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing, wildlife habitat, recreation

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Forest land" section

"Engineering" section

"Soil Properties" section

224--Gerle sandy loam, 30 to 50 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains

Elevation: 5,300 to 6,300

Precipitation: 25 to 30 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Gerle sandy loam, 30 to 50 percent slopes--85 percent

Gerle sandy loam, 30 to 50 percent slopes, extremely bouldery--5 percent

Rock outcrop, 30 to 50 percent slopes--5 percent

Mottsville gravelly loamy coarse sand, 30 to 50 percent slopes--5 percent

Component Description

Gerle and similar soils

Landform: Backslopes of moraines

Slope: 30 to 50 percent, north aspect

Parent material: Outwash derived from granite

Typical vegetation: Forest canopy--white fir,

Forest understory--western brackenfern, chinkapin, whitethorn ceanothus, huckleberry oak, currant

Site index: White fir--66 at an age base of 50 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 68

Typical profile:

Layer 1--0 to 18 inches; sandy loam

Layer 2--18 to 46 inches; sandy loam

Layer 3--46 to 60 inches; gravelly sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: Medium
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Gerle and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent, north aspect
 Landform: Backslopes of moraines
 Typical vegetation: Forest canopy--white fir,
 Forest understory--currant, huckleberry oak, western
 brackenfern, whitethorn ceanothus, chinkapin
 Ecological site: None assigned

Rock outcrop

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Mountains
 Ecological site: None assigned

Mottsville gravelly loamy coarse sand and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Fan remnants
 Typical vegetation: Indian ricegrass, desert peach,
 antelope bitterbrush, needleandthread, bottlebrush
 squirreltail, basin big sagebrush, desert needlegrass
 Ecological site: R026XF051CA--Granitic fan 9-12

Management

Major uses: Timber production, livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

225--Gerle complex, 30 to 70 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains
 Elevation: 6,000 to 7,200
 Precipitation: 30 to 35 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Gerle very bouldery sandy loam, 50 to 70 percent slopes--
 50 percent
 Gerle sandy loam, 50 to 70 percent slopes--25 percent
 Gerle sandy loam, 30 to 50 percent slopes--15 percent
 Rock outcrop, 50 to 70 percent slopes--10 percent

Component Description

Gerle and similar soils

Landform: Backslopes of moraines
 Slope: 50 to 70 percent, north aspect
 Parent material: Outwash derived from granite
 Typical vegetation: Forest canopy--California red fir, white
 fir; Forest understory--greenleaf manzanita, whitethorn
 ceanothus, snowbrush ceanothus, other perennial
 grasses, needlegrass
 Site index: White fir--77 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 68

Typical profile:

Surface rock fragments: About 40 percent boulders
 Layer 1--0 to 13 inches; very bouldery sandy loam
 Layer 2--13 to 46 inches; coarse sandy loam
 Layer 3--46 to 60 inches; cobbly sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: None assigned

Component Description

Gerle and similar soils

Landform: Backslopes of moraines
 Slope: 50 to 70 percent, north aspect
 Parent material: Outwash derived from granite
 Typical vegetation: Forest canopy--California red fir, white
 fir; Forest understory--western brackenfern, currant,
 huckleberry oak, whitethorn ceanothus, chinkapin
 Site index: California red fir--51 at an age base of 50 years

Site index: White fir--66 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 68

Typical profile:

Layer 1--0 to 13 inches; sandy loam
 Layer 2--13 to 46 inches; sandy loam
 Layer 3--46 to 60 inches; cobbly sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: Medium
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: None assigned

Component Description

Gerle and similar soils

Landform: Backslopes of moraines
 Slope: 30 to 50 percent, north aspect
 Parent material: Outwash derived from granite
 Typical vegetation: Forest canopy--California red fir, white fir; Forest understory--chinkapin, whitethorn ceanothus, western brackenfern, huckleberry oak, currant
 Site index: California red fir--51 at an age base of 50 years
 Site index: White fir--66 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 68

Typical profile:

Layer 1--0 to 13 inches; sandy loam
 Layer 2--13 to 46 inches; sandy loam
 Layer 3--46 to 60 inches; cobbly sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 10 percent
 Slope: 50 to 70 percent
 Landform: Ridges
 Ecological site: None assigned

Management

Major uses: Timber production
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

226--Glean very gravelly sandy loam, 5 to 30 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 5,800 to 6,200
 Precipitation: 12 to 16 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Glean very gravelly sandy loam, 5 to 30 percent slopes--90 percent
 Sumine very stony loam, 9 to 30 percent slopes--5 percent
 Madeline very stony loam, 9 to 30 percent slopes--5 percent

Component Description

Glean and similar soils

Landform: Backslopes of mountains
 Slope: 5 to 30 percent, north aspect
 Parent material: Colluvium derived from volcanic rock
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, needlegrass, antelope bitterbrush

Typical profile:

Surface rock fragments: About 2 percent stones
 Layer 1--0 to 14 inches; very gravelly sandy loam
 Layer 2--14 to 44 inches; very gravelly sandy loam
 Layer 3--44 to 48 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE176CA--Loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Sumine very stony loam and similar soils

Composition: 0 to 5 percent

Slope: 9 to 30 percent, north aspect

Landform: Mountains

Typical vegetation: Thurber needlegrass, antelope bitterbrush, Idaho fescue, basin wildrye, mountain big sagebrush, bluebunch wheatgrass

Ecological site: R021XE174CA--Stony loam 12-16

Madeline very stony loam and similar soils

Composition: 0 to 5 percent

Slope: 9 to 30 percent

Landform: Toeslopes of mountains

Typical vegetation: Antelope bitterbrush, Thurber needlegrass, mountain big sagebrush, bluebunch wheatgrass

Ecological site: R021XE179CA--Warm stony loam 12-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

227--Glean very gravelly sandy loam, 30 to 50 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Alluvial plain, mountains, plateau

Elevation: 5,800 to 7,000

Precipitation: 12 to 16 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Glean very gravelly sandy loam, 30 to 50 percent slopes--85 percent

Madeline very stony loam, 30 to 50 percent slopes--5 percent

Rock outcrop, 30 to 50 percent slopes--3 percent

Fivesprings very stony loam, 30 to 50 percent slopes--3 percent

Aquolls gravelly sandy loam, 2 to 5 percent slopes--2 percent

Anawalt very stony loam, 30 to 50 percent slopes--2 percent

Component Description

Glean and similar soils

Landform: Mountains

Slope: 30 to 50 percent

Parent material: Colluvium derived from volcanic rock

Typical vegetation: Antelope bitterbrush, needlegrass, Idaho fescue, mountain big sagebrush, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 2 percent stones

Layer 1--0 to 14 inches; very gravelly sandy loam

Layer 2--14 to 44 inches; very gravelly sandy loam

Layer 3--44 to 48 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Madeline very stony loam and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Toeslopes of mountains
 Typical vegetation: Bluebunch wheatgrass, antelope bitterbrush, mountain big sagebrush, Thurber needlegrass
 Ecological site: R021XE179CA--Warm stony loam 12-16

Rock outcrop

Composition: 0 to 3 percent
 Slope: 30 to 50 percent
 Landform: Mountains
 Ecological site: None assigned

Fivesprings very stony loam and similar soils

Composition: 0 to 3 percent
 Slope: 30 to 50 percent, south aspect
 Landform: Mountains
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, Thurber needlegrass
 Ecological site: R021XE179CA--Warm stony loam 12-16

Aquolls gravelly sandy loam and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 5 percent
 Landform: Lakeshores
 Ecological site: None assigned

Anawalt very stony loam and similar soils

Composition: 0 to 2 percent
 Slope: 30 to 50 percent
 Landform: Summits of plateaus, backslopes of plateaus
 Typical vegetation: Idaho fescue, Thurber needlegrass, antelope bitterbrush, Sandberg bluegrass, low sagebrush, bluebunch wheatgrass
 Ecological site: R021XE173CA

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

228--Glean-Searles association, 30 to 50 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Plateau
 Elevation: 5,600 to 7,000
 Precipitation: 10 to 14 inches
 Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Glean very stony loam, 30 to 50 percent slopes--55 percent
 Searles very stony loam, 30 to 50 percent slopes--30 percent
 Rock outcrop, 30 to 50 percent slopes--5 percent
 Petescreek stony loam, 30 to 50 percent slopes--5 percent
 Indiano gravelly sandy loam, 30 to 50 percent slopes--5 percent

Component Description

Glean and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent, north aspect
 Parent material: Colluvium derived from volcanic rock
 Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, needlegrass, Idaho fescue, antelope bitterbrush

Typical profile:

Surface rock fragments: About 20 percent cobbles, 20 percent stones
 Layer 1--0 to 14 inches; very stony loam
 Layer 2--14 to 44 inches; very gravelly loam
 Layer 3--44 to 48 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R021XE174CA

Component Description

Searles and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent, south aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Thurber needlegrass, mountain big sagebrush, antelope bitterbrush, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 10 percent cobbles, 20 percent stones

Layer 1--0 to 13 inches; very stony loam

Layer 2--13 to 29 inches; very cobbly clay loam

Layer 3--29 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R021XE179CA--Warm stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Rock outcrop**

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Mountains

Ecological site: None assigned

Petescreek stony loam and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, Idaho fescue, antelope bitterbrush, needlegrass

Ecological site: R021XE174CA--Stony loam 12-16

Indiano gravelly sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Summits of plateaus

Typical vegetation: Bluebunch wheatgrass, big sagebrush, basin wildrye, green ephedra, antelope bitterbrush, Thurber needlegrass

Ecological site: R021XE176CA--Loam 12-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

229--Glenbrook-Graufels-Rock outcrop complex, 30 to 60 percent slopes**Map Unit Setting**

MLRA: 26

Landscape: Mountains

Elevation: 5,500 to 6,500

Precipitation: 10 to 12 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Glenbrook gravelly loamy coarse sand, 30 to 60 percent slopes--40 percent

Graufels bouldery sand, 30 to 60 percent slopes--30 percent

Rock outcrop unweathered bedrock, 30 to 60 percent slopes--15 percent

Haypress very bouldery loamy coarse sand, 30 to 50 percent slopes--5 percent

Sumine very stony loam, 30 to 50 percent slopes--5 percent

Hutchley very stony sandy loam, 15 to 30 percent slopes--5 percent

Component Description**Glenbrook and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 60 percent

Parent material: Residuum weathered from granite

Typical vegetation: Desert needlegrass, Thurber needlegrass, big sagebrush, yellow rabbitbrush, other shrubs, other perennial forbs, other perennial grasses, antelope bitterbrush, green ephedra, bottlebrush squirreltail

Typical profile:

Layer 1--0 to 3 inches; gravelly loamy coarse sand

Layer 2--3 to 12 inches; coarse sand

Layer 3--12 to 16 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches

Permeability class (root zone): Rapid

Available water capacity: About 0.7 inch

Present flooding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R026XF053CA--Shallow granitic upland 9-12

Component Description

Graufels and similar soils

Landform: Backslopes of mountains

Slope: 30 to 60 percent

Parent material: Colluvium derived from granite and residuum weathered from granite

Typical vegetation: Antelope bitterbrush, needlegrass, Anderson peachbrush, bluebunch wheatgrass, Wyoming big sagebrush, green ephedra

Typical profile:

Surface rock fragments: About 10 percent boulders

Layer 1--0 to 14 inches; bouldery sand

Layer 2--14 to 22 inches; sand

Layer 3--22 to 26 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Rapid

Available water capacity: About 1.5 inches

Present flooding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R026XF052CA--Granitic upland 9-12

Component Description

Rock outcrop

Landform: Mountains

Slope: 30 to 60 percent

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Haypress very bouldery loamy coarse sand and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Needlegrass, antelope bitterbrush, Anderson peachbrush, green ephedra, big sagebrush, bluebunch wheatgrass

Ecological site: R026XF052CA--Granitic upland 9-12

Sumine very stony loam and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent, south aspect

Landform: Backslopes of mountains

Typical vegetation: Thurber needlegrass, antelope bitterbrush, basin wildrye, bluebunch wheatgrass, mountain big sagebrush, Idaho fescue

Ecological site: R021XE179CA--Warm stony loam 12-16

Hutchley very stony sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 15 to 30 percent, north aspect

Landform: Backslopes of mountains, ridges

Typical vegetation: Sandberg bluegrass, bottlebrush squirreltail, other perennial grasses, low sagebrush, arrowleaf balsamroot, longleaf hawksbeard, lupine, Nevada bluegrass, bluebunch wheatgrass, other perennial forbs, other shrubs

Ecological site: R021XE191CA--Mountain ridges 12-16

Management

Major uses: Livestock grazing, wildlife habitat

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

230--Graufels-Glenbrook complex, 5 to 30 percent slopes

Map Unit Setting

MLRA: 26

Landscape: Mountains

Elevation: 5,000 to 6,000

Precipitation: 10 to 12 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Graufels bouldery sand, 5 to 30 percent slopes--50 percent

Glenbrook sand, 5 to 30 percent slopes--35 percent

Galeppi sandy loam, 5 to 30 percent slopes--8 percent

Mottsville gravelly loamy coarse sand, 5 to 30 percent slopes--7 percent

Component Description

Graufels and similar soils

Landform: Backslopes of mountains

Slope: 5 to 30 percent

Parent material: Colluvium derived from granite and residuum weathered from granite

Typical vegetation: Green ephedra, Wyoming big sagebrush, Anderson peachbrush, antelope bitterbrush, needlegrass, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 10 percent boulders

Layer 1--0 to 14 inches; bouldery sand

Layer 2--14 to 22 inches; loamy sand

Layer 3--22 to 26 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Rapid

Available water capacity: About 1.5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R026XF052CA--Granitic upland 9-12

Component Description

Glenbrook and similar soils

Landform: Backslopes of mountains

Slope: 5 to 30 percent

Parent material: Residuum weathered from granite

Typical vegetation: Big sagebrush, bottlebrush squirreltail, Thurber needlegrass, yellow rabbitbrush, green ephedra, other perennial forbs, other perennial grasses, desert needlegrass, other shrubs, antelope bitterbrush

Typical profile:

Layer 1--0 to 3 inches; sand

Layer 2--3 to 12 inches; gravelly sand

Layer 3--12 to 16 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low

Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches

Permeability class (root zone): Rapid

Available water capacity: About 0.7 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R026XF053CA--Shallow granitic upland 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Galeppi sandy loam and similar soils

Composition: 0 to 8 percent

Slope: 5 to 30 percent

Landform: Fan remnants

Typical vegetation: Needlegrass, bluebunch wheatgrass, Wyoming big sagebrush, green ephedra, Anderson peachbrush, antelope bitterbrush

Ecological site: R026XF052CA--Granitic upland 9-12

Mottsville gravelly loamy coarse sand and similar soils

Composition: 0 to 7 percent

Slope: 5 to 30 percent

Landform: Fan remnants

Typical vegetation: Desert peach, desert needlegrass, basin big sagebrush, bottlebrush squirreltail, needleandthread, antelope bitterbrush, Indian ricegrass

Ecological site: R026XF051CA

Management

Major uses: Livestock grazing, urban land

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

231--Hagata-Playas complex, 0 to 2 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Alluvial plain

Elevation: 5,300 to 5,600

Precipitation: 12 to 14 inches

Air temperature: 44 to 47 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Hagata silt loam, 0 to 2 percent slopes--60 percent

Playas silty clay, 0 to 1 percent slopes--30 percent

Ravendale silty clay, 0 to 2 percent slopes--5 percent

Saddlerock silty clay, 0 to 2 percent slopes--3 percent

Truax sandy loam, 0 to 2 percent slopes--2 percent

Component Description

Hagata and similar soils

Landform: Fan remnants

Slope: 0 to 2 percent

Parent material: Lacustrine deposits over residuum weathered from tuff

Typical vegetation: Eriogonum, Idaho fescue, low sagebrush, bluegrass, Nevada bluegrass, bottlebrush squirreltail, Thurber needlegrass

Typical profile:

Layer 1--0 to 6 inches; silt loam

Layer 2--6 to 22 inches; silty clay

Layer 3--22 to 36 inches; weathered bedrock

Layer 4--36 to 60 inches; loamy sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 20 to 30 inches

Permeability class (root zone): Very slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R021XE184CA--Shallow loam 12-16

Component Description

Playas

Landform: Playa

Slope: 0 to 1 percent

Component Properties and Qualities

Runoff: Negligible

Salinity: Saline within 40 inches

Present ponding: Frequent

Interpretive Groups

Nonirrigated land capability: 8

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Ravendale silty clay, drained and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Basin floors

Typical vegetation: Western wheatgrass, beardless wildrye, Nevada bluegrass, basin big sagebrush, rubber rabbitbrush

Ecological site: R021XE189CA

Saddlerock silty clay, drained and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Stream terraces

Typical vegetation: Basin big sagebrush, basin wildrye

Ecological site: R023XF088CA--Loamy bottom 9-16

Truax sandy loam and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Fan remnants

Typical vegetation: Thurber needlegrass, bottlebrush squirreltail, basin big sagebrush, basin wildrye, antelope bitterbrush, needleandthread

Ecological site: R021XE186CA

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

232--Hangtown very cobbly sandy loam, 30 to 50 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains
 Elevation: 6,000 to 7,470
 Precipitation: 35 to 40 inches
 Air temperature: 41 to 43 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Hangtown very cobbly sandy loam, 30 to 50 percent slopes--75 percent
 Hangtown very cobbly sandy loam, 30 to 50 percent slopes, very bouldery--5 percent
 Rock outcrop, 30 to 50 percent slopes--5 percent
 Penstock very gravelly loam, 30 to 50 percent slopes--5 percent
 Scaribou very gravelly loam, 30 to 50 percent slopes--5 percent
 Deadwood very gravelly sandy loam, 30 to 50 percent slopes--5 percent

Component Description

Hangtown and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from metavolcanics and residuum weathered from metavolcanics
 Typical vegetation: Forest canopy--California red fir, Douglas fir, sugar pine, white fir; Forest understory--huckleberry oak, other perennial grasses, pinemat manzanita
 Site index: White fir--50 at an age base of 50 years
 Additional forest note: Dunning site class: III

Typical profile:

Surface rock fragments: About 25 percent cobbles, 10 percent stones
 Layer 1--0 to 9 inches; very cobbly sandy loam
 Layer 2--9 to 58 inches; very gravelly sandy loam
 Layer 3--58 to 62 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Hangtown and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--California red fir, Douglas fir, sugar pine, white fir; Forest understory--other perennial grasses, pinemat manzanita, huckleberry oak
 Ecological site: None assigned

Rock outcrop

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Mountains
 Ecological site: None assigned

Penstock stony loam and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--mountain brome, manzanita, sharpleaf snowberry, needlegrass, snowbrush ceanothus, whitethorn ceanothus
 Ecological site: None assigned

Scaribou stony loam and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--manzanita, snowbrush ceanothus, sharpleaf snowberry, needlegrass, whitethorn ceanothus, mountain brome
 Ecological site: None assigned

Deadwood very gravelly sandy loam and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Ridges
 Typical vegetation: Forest canopy--Douglas fir, canyon live oak, incense cedar, ponderosa pine, sugar pine, Forest understory--greenleaf manzanita, pinemat manzanita, California nutmeg
 Ecological site: None assigned

Management

Major uses: Timber production

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

233--Hart Camp-Devada-Tunnison association, 2 to 15 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,600 to 5,900

Precipitation: 10 to 16 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 70 to 90 days

Composition

Hart Camp very stony loam, 9 to 15 percent slopes--40 percent

Devada very stony loam, 2 to 9 percent slopes--30 percent

Tunnison very cobbly clay, 2 to 9 percent slopes--15 percent

Bucklake very stony loam, 9 to 15 percent slopes--4 percent

Rock outcrop, 9 to 15 percent slopes--3 percent

Sumine cobbly loam, 9 to 15 percent slopes--3 percent

Madeline very stony loam, 9 to 15 percent slopes--3 percent

Rubble land, 9 to 15 percent slopes--2 percent

Component Description

Hart Camp and similar soils

Landform: Backslopes of plateaus

Slope: 9 to 15 percent

Parent material: Andesitic tuff

Typical vegetation: Idaho fescue, basin wildrye, mountain big sagebrush, bluebunch wheatgrass, Canby bluegrass, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 5 percent cobbles, 15 percent stones

Layer 1--0 to 4 inches; very stony loam

Layer 2--4 to 16 inches; gravelly clay loam

Layer 3--16 to 20 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE174CA--Stony loam 12-16

Component Description

Devada and similar soils

Landform: Plateaus

Slope: 2 to 9 percent

Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite

Typical vegetation: Bluebunch wheatgrass, Thurber needlegrass, bluegrass, low sagebrush

Typical profile:

Surface rock fragments: About 20 percent cobbles, 25 percent stones

Layer 1--0 to 4 inches; very stony loam

Layer 2--4 to 13 inches; gravelly clay

Layer 3--13 to 17 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XF081CA--Shallow stony loam 9-12

Component Description

Tunnison and similar soils

Landform: Plateaus

Slope: 2 to 9 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Beardless wildrye, western wheatgrass, big sagebrush, rubber rabbitbrush, bottlebrush squirreltail, littleleaf horsebrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 30 percent cobbles
 Layer 1--0 to 1 inch; very cobbly clay
 Layer 2--1 to 31 inches; clay
 Layer 3--31 to 38 inches; weathered bedrock
 Layer 4--38 to 48 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 20 to 35 inches
 Bedrock (lithic): 30 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF093CA--Shallow clay 9-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Bucklake very stony loam and similar soils**

Composition: 0 to 4 percent
 Slope: 9 to 15 percent
 Landform: Backslopes of mountains
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, rabbitbrush, antelope bitterbrush, basin wildrye, Thurber needlegrass
 Ecological site: R023XF082CA--Stony loam 9-12

Rock outcrop

Composition: 0 to 3 percent
 Slope: 9 to 15 percent
 Landform: Plateaus
 Ecological site: None assigned

Sumine cobbly loam and similar soils

Composition: 0 to 3 percent
 Slope: 9 to 15 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Idaho fescue, Thurber needlegrass, oceanspray, bluebunch wheatgrass, basin wildrye, mountain brome, mountain big sagebrush
 Ecological site: R021XE176CA--Loam 12-16

Madeline very stony loam and similar soils

Composition: 0 to 3 percent
 Slope: 9 to 15 percent

Landform: Ridges

Typical vegetation: Idaho fescue, antelope bitterbrush, Thurber needlegrass, mountain big sagebrush, bluebunch wheatgrass

Ecological site: R021XE174CA--Stony loam 12-16

Rubble land

Composition: 0 to 2 percent
 Slope: 9 to 15 percent
 Landform: Plateaus
 Ecological site: None assigned

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

234--Hart Camp-Madeline association, 9 to 15 percent slopes***Map Unit Setting***

MLRA: 21
 Landscape: Mountains
 Elevation: 5,600 to 6,200
 Precipitation: 10 to 14 inches
 Air temperature: 42 to 45 degrees Fahrenheit
 Frost-free period: 60 to 90 days

Composition

Hart Camp gravelly loam, 9 to 15 percent slopes--50 percent
 Madeline very stony loam, 9 to 15 percent slopes--35 percent
 Ninemile very stony loam, 9 to 15 percent slopes--4 percent
 Fredonyer very stony loam, 9 to 15 percent slopes--4 percent
 Petescreek gravelly loam, 9 to 15 percent slopes--3 percent
 Rubble land, 9 to 15 percent slopes--2 percent
 Rock outcrop, 9 to 15 percent slopes--2 percent

Component Description**Hart Camp and similar soils**

Landform: Backslopes of mountains
 Slope: 9 to 15 percent, north aspect
 Parent material: Andesitic tuff
 Typical vegetation: Needlegrass, antelope bitterbrush, Idaho fescue, bluebunch wheatgrass, mountain big sagebrush

Typical profile:

Surface rock fragments: About 3 percent cobbles
 Layer 1--0 to 4 inches; gravelly loam
 Layer 2--4 to 16 inches; gravelly clay loam
 Layer 3--16 to 20 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R021XE176CA--Loam 12-16

Component Description**Madeline and similar soils**

Landform: Ridges
 Slope: 9 to 15 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Idaho fescue, mountain big sagebrush, bluebunch wheatgrass, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 20 percent cobbles, 20 percent stones
 Layer 1--0 to 5 inches; very stony loam
 Layer 2--5 to 9 inches; gravelly clay loam
 Layer 3--9 to 16 inches; gravelly clay
 Layer 4--16 to 20 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE174CA--Stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Ninemile very stony loam and similar soils**

Composition: 0 to 4 percent
 Slope: 9 to 15 percent, north aspect
 Landform: Ridges
 Typical vegetation: Bluegrass, antelope bitterbrush, bottlebrush squirreltail, Thurber needlegrass, balsamroot, bluebunch wheatgrass, Idaho fescue, low sagebrush

Ecological site: R021XE173CA--Shallow stony loam 12-16

Fredonyer very stony loam and similar soils

Composition: 0 to 4 percent
 Slope: 9 to 15 percent
 Landform: Ridges
 Typical vegetation: Mountain big sagebrush, Idaho fescue, curleaf mountain mahogany
 Ecological site: R021XE178CA

Petescreek gravelly loam and similar soils

Composition: 0 to 3 percent
 Slope: 9 to 15 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, needlegrass
 Ecological site: R021XE176CA

Rubble land

Composition: 0 to 2 percent
 Slope: 9 to 15 percent
 Landform: Mountains
 Ecological site: None assigned

Rock outcrop

Composition: 0 to 2 percent
 Slope: 9 to 15 percent
 Landform: Mountains
 Ecological site: None assigned

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

235--Haypress-Tanob association, 15 to 50 percent slopes**Map Unit Setting**

MLRA: 26
 Landscape: Mountains
 Elevation: 5,000 to 6,000
 Precipitation: 16 to 18 inches
 Air temperature: 45 to 47 degrees Fahrenheit
 Frost-free period: 50 to 80 days

Composition

Haypress very bouldery loamy coarse sand, 30 to 50 percent slopes--60 percent
 Tanob gravelly loamy coarse sand, 15 to 30 percent slopes--20 percent
 Mottsville gravelly loamy coarse sand, 15 to 30 percent slopes--8 percent
 Galeppi sandy loam, 15 to 30 percent slopes--7 percent
 Glenbrook sand, 30 to 50 percent slopes--5 percent

Component Description**Haypress and similar soils**

Landform: Backslopes of mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from granite and residuum weathered from granite
 Typical vegetation: Needlegrass, antelope bitterbrush, Anderson peachbrush, green ephedra, bluebunch wheatgrass, big sagebrush

Typical profile:

Surface rock fragments: About 5 percent boulders, 15 percent stones
 Layer 1--0 to 16 inches; very bouldery loamy coarse sand
 Layer 2--16 to 42 inches; gravelly loamy coarse sand
 Layer 3--42 to 46 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
 Permeability class (root zone): Rapid
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R026XF052CA--Granitic upland 9-12

Component Description**Tanob and similar soils**

Landform: Toeslopes of mountains
 Slope: 15 to 30 percent
 Parent material: Residuum weathered from granite
 Typical vegetation: Bluebunch wheatgrass, needlegrass, mountain big sagebrush, green ephedra, antelope bitterbrush, Anderson peachbrush

Typical profile:

Layer 1--0 to 10 inches; gravelly loamy coarse sand
 Layer 2--10 to 26 inches; sandy loam
 Layer 3--26 to 30 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R026XF052CA--Granitic upland 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Mottsville gravelly loamy coarse sand and similar soils**

Composition: 0 to 8 percent
 Slope: 15 to 30 percent
 Landform: Fan remnants
 Typical vegetation: Indian ricegrass, antelope bitterbrush, needleandthread, desert peach, desert needlegrass, basin big sagebrush, bottlebrush squirreltail
 Ecological site: R026XF051CA

Galeppi sandy loam and similar soils

Composition: 0 to 7 percent
 Slope: 15 to 30 percent
 Landform: Fan remnants
 Typical vegetation: Wyoming big sagebrush, rubber rabbitbrush, beardless wildrye, Indian ricegrass, Anderson peachbrush, antelope bitterbrush, needleandthread
 Ecological site: R026XF051CA

Glenbrook sand and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Rock pediments

Typical vegetation: Big sagebrush, yellow rabbitbrush, green ephedra, other perennial forbs, other perennial grasses, antelope bitterbrush, bottlebrush squirreltail, other shrubs, desert needlegrass, Thurber needlegrass

Ecological site: R026XF053CA--Shallow granitic upland 9-12

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low

Permeability class (root zone): Moderate

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 4 inches

Present flooding: None

Water table: Present

Natural drainage class: Moderately well drained

Interpretive Groups

Irrigated land capability: 3s-4

Nonirrigated land capability: 7s

Ecological site: R023XG058CA--Saline-sodic subirrigated 6-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

236--Herjun loamy sand, 0 to 2 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Alluvial plain, lake plain

Elevation: 4,000 to 4,050

Precipitation: 9 to 12 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Herjun loamy sand, 0 to 2 percent slopes--85 percent

Honlak loam, 0 to 2 percent slopes--5 percent

Playas, 0 to 1 percent slopes--5 percent

Blickenstaff sandy loam, 0 to 2 percent slopes--5 percent

Component Description**Herjun and similar soils**

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Alluvium derived from mixed rocks and lacustrine deposits

Typical vegetation: Alkaligrass, bluegrass, black greasewood, basin wildrye, inland saltgrass, western wheatgrass, rush

Typical profile:

Layer 1--0 to 18 inches; loamy sand

Layer 2--18 to 40 inches; sandy loam

Layer 3--40 to 53 inches; loamy sand

Layer 4--53 to 60 inches; loam

Contrasting Inclusions**Honlak loam and similar soils**

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Fan remnants

Typical vegetation: Western wheatgrass, inland saltgrass, basin wildrye, beardless wildrye, rush, bluegrass, alkaligrass, black greasewood

Ecological site: R023XG058CA

Playas silty clay

Composition: 0 to 5 percent

Slope: 0 to 1 percent

Landform: Playas

Ecological site: None assigned

Blickenstaff sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Stream terraces

Ecological site: None assigned

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

237--Herjun silt loam, 0 to 2 percent slopes***Map Unit Setting***

MLRA: 23
 Landscape: Lake plain
 Elevation: 4,010 to 4,020
 Precipitation: 9 to 12 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Herjun silt loam, 0 to 2 percent slopes--80 percent
 Bobert sandy loam, 0 to 2 percent slopes--8 percent
 Humboldt silty clay, 0 to 2 percent slopes--7 percent
 Truckee clay loam, 0 to 2 percent slopes--5 percent

Component Description**Herjun and similar soils**

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from mixed rocks and lacustrine deposits
 Typical vegetation: Western wheatgrass, inland saltgrass, basin wildrye, black greasewood, alkaligrass, bluegrass, rush

Typical profile:

Layer 1--0 to 10 inches; silt loam
 Layer 2--10 to 32 inches; sandy loam
 Layer 3--32 to 60 inches; silt loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low
 Permeability class (root zone): Moderate
 Salinity: Saline within 40 inches
 Sodicty: Sodic within 40 inches
 Available water capacity: About 6 inches
 Present flooding: Rare
 Water table: Present
 Natural drainage class: Moderately well drained

Interpretive Groups

Irrigated land capability: 2s-6
 Nonirrigated land capability: 7s
 Ecological site: R023XG058CA--Saline-sodic subirrigated 6-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Bobert sandy loam and similar soils**

Composition: 0 to 8 percent

Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Western wheatgrass, inland saltgrass, spiny hopsage, black greasewood, bottlebrush squirreltail, seepweed
 Ecological site: R023XG050CA--Saline-sodic flat 6-9

Humboldt silty clay and similar soils

Composition: 0 to 7 percent
 Slope: 0 to 2 percent
 Landform: Flood plains
 Ecological site: None assigned

Truckee clay loam and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Flood plains
 Ecological site: None assigned

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

238--Highrock-Mazuma-Wespac association, 0 to 2 percent slopes***Map Unit Setting***

MLRA: 23
 Landscape: Lake plain
 Elevation: 4,000 to 4,050
 Precipitation: 6 to 8 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Highrock fine sandy loam, 0 to 2 percent slopes--40 percent
 Mazuma loamy fine sand, 0 to 2 percent slopes--25 percent
 Wespac fine sandy loam, 0 to 2 percent slopes--20 percent
 Herlong fine sandy loam, 0 to 2 percent slopes--3 percent
 Stacy fine sandy loam, 0 to 2 percent slopes--3 percent
 Toulon very gravelly fine sandy loam, 2 to 5 percent slopes--3 percent
 Ragtown loam, 0 to 2 percent slopes--3 percent
 McConnel gravelly fine sandy loam, 2 to 5 percent slopes--2 percent

Rock outcrop, tufa, 0 to 2 percent slopes--1 percent

Component Description

Highrock and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Lacustrine deposits

Typical vegetation: Bottlebrush squirreltail, black greasewood, spiny hopsage, basin wildrye, shadscale

Typical profile:

Layer 1--0 to 5 inches; fine sandy loam

Layer 2--5 to 10 inches; clay loam

Layer 3--10 to 14 inches; sandy clay loam

Layer 4--14 to 30 inches; loam

Layer 5--30 to 60 inches; silty clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3e-4

Nonirrigated land capability: 7s

Ecological site: R023XG047CA--Sodic terrace 6-9

Component Description

Mazuma and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Alluvium derived from mixed rocks and lacustrine deposits

Typical vegetation: Seepweed, basin wildrye, bottlebrush squirreltail, shadscale, black greasewood

Typical profile:

Layer 1--0 to 5 inches; loamy fine sand

Layer 2--5 to 60 inches; stratified gravelly coarse sand to silt loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low

Permeability class (root zone): Moderately rapid

Sodicity: Sodic within 40 inches

Available water capacity: About 7 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2s-5

Nonirrigated land capability: 7s

Ecological site: R023XG047CA

Component Description

Wespac and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Lacustrine deposits

Typical vegetation: Basin big sagebrush, basin wildrye, black greasewood, bottlebrush squirreltail

Typical profile:

Layer 1--0 to 3 inches; fine sandy loam

Layer 2--3 to 45 inches; sandy clay loam

Layer 3--45 to 60 inches; stratified sand to fine sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Sodicity: Sodic within 40 inches

Available water capacity: About 8 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3s-6

Nonirrigated land capability: 7s

Ecological site: R023XG048CA--Sodic loam 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Herlong fine sandy loam and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Bud sagebrush, shadscale, black greasewood, bottlebrush squirreltail

Ecological site: R023XG046CA--Sodic flat 6-9

Stacy fine sandy loam and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fans

Typical vegetation: Basin big sagebrush, basin wildrye, black greasewood

Ecological site: R023XG051CA--Loamy bottom 6-9

Toulon very gravelly fine sandy loam and similar soils

Composition: 0 to 3 percent

Slope: 2 to 5 percent

Landform: Fan remnants

Typical vegetation: Shadscale, spiny hopsage, Indian ricegrass, bottlebrush squirreltail

Ecological site: R023XG057CA--Sodic gravelly sand 6-9

Ragtown loam and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Shadscale, basin wildrye, spiny hopsage, black greasewood, bottlebrush squirreltail

Ecological site: R023XG047CA--Sodic terrace 6-9

McConnel gravelly fine sandy loam and similar soils

Composition: 0 to 2 percent

Slope: 2 to 5 percent

Landform: Fan remnants

Typical vegetation: Wyoming big sagebrush, Indian ricegrass, Sandberg bluegrass, bottlebrush squirreltail, globemallow, needleandthread

Ecological site: R023XG054CA--Sandy terrace 6-9

Rock outcrop, tufa

Composition: 0 to 1 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Ecological site: None assigned

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

239--Highrock-Wespac-Zorravista complex, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Lake plain

Elevation: 4,000 to 4,020

Precipitation: 6 to 8 inches

Air temperature: 49 to 51 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Highrock fine sandy loam, 0 to 2 percent slopes--45 percent

Wespac fine sandy loam, 0 to 2 percent slopes--25 percent

Zorravista loamy sand, 0 to 2 percent slopes--20 percent

Ragtown loam, 0 to 2 percent slopes--5 percent

Playas, 0 to 1 percent slopes--5 percent

Component Description

Highrock and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Lacustrine deposits

Typical vegetation: Basin wildrye, shadscale, spiny hopsage, black greasewood, bottlebrush squirreltail

Typical profile:

Layer 1--0 to 5 inches; fine sandy loam

Layer 2--5 to 8 inches; clay loam

Layer 3--8 to 12 inches; sandy clay loam

Layer 4--12 to 27 inches; loam

Layer 5--27 to 60 inches; silty clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 5 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3e-4

Nonirrigated land capability: 7s

Ecological site: R023XG047CA--Sodic terrace 6-9

Component Description

Wespac fine sandy loam and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Lacustrine deposits

Typical vegetation: Bottlebrush squirreltail, basin wildrye, basin big sagebrush, black greasewood

Typical profile:

Layer 1--0 to 10 inches; fine sandy loam

Layer 2--10 to 19 inches; sandy clay loam

Layer 3--19 to 60 inches; loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Permeability class (root zone): Slow
 Salinity: Saline within 40 inches
 Sodicty: Sodic within 40 inches
 Available water capacity: About 7 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3s-6
 Nonirrigated land capability: 7s
 Ecological site: R023XG048CA--Sodic loam 6-9

Component Description

Zorravista loamy sand and similar soils

Landform: Dunes
 Slope: 0 to 2 percent
 Parent material: Eolian sands
 Typical vegetation: Fourwing saltbush, littleleaf horsebrush, needleandthread, black greasewood, Indian ricegrass, spiny hopsage, basin wildrye, rubber rabbitbrush, basin big sagebrush

Typical profile:

Layer 1--0 to 4 inches; loamy sand
 Layer 2--4 to 60 inches; stratified fine sand to loamy fine sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Negligible
 Permeability class (root zone): Very rapid
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Excessively drained

Interpretive Groups

Irrigated land capability: 3s-4
 Nonirrigated land capability: 7s
 Ecological site: R023XG049CA--Sand dunes 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Ragtown loam and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces

Typical vegetation: Shadscale, basin wildrye, spiny hopsage, black greasewood, bottlebrush squirreltail
 Ecological site: R023XG047CA--Sodic terrace 6-9

Playas silty clay

Composition: 0 to 5 percent
 Slope: 0 to 1 percent
 Landform: Lake terraces
 Ecological site: None assigned

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

240--Home Camp-Newlands association, 5 to 30 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 6,000 to 6,200
 Precipitation: 12 to 16 inches
 Air temperature: 41 to 44 degrees Fahrenheit
 Frost-free period: 30 to 70 days

Composition

Home Camp stony loam, 5 to 15 percent slopes--65 percent
 Newlands stony loam, 9 to 30 percent slopes--20 percent
 Hart Camp very stony loam, 15 to 30 percent slopes--5 percent
 Rock outcrop, 15 to 30 percent slopes--5 percent
 Madeline very stony loam, 5 to 15 percent slopes--5 percent

Component Description

Home Camp stony loam and similar soils

Landform: Ridges
 Slope: 5 to 15 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, needlegrass, antelope bitterbrush

Typical profile:

Surface rock fragments: About 10 percent cobbles, 5 percent stones

Layer 1--0 to 3 inches; stony loam
 Layer 2--3 to 9 inches; cobbly loam
 Layer 3--9 to 17 inches; very cobbly clay loam
 Layer 4--17 to 28 inches; very gravelly clay
 Layer 5--28 to 32 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R021XE174CA--Stony loam 12-16

Component Description

Newlands stony loam and similar soils

Landform: Backslopes of mountains
 Slope: 9 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Bluegrass, needlegrass, antelope bitterbrush, mountain big sagebrush, Idaho fescue

Typical profile:

Surface rock fragments: About 5 percent cobbles, 5 percent stones
 Layer 1--0 to 8 inches; stony loam
 Layer 2--8 to 43 inches; gravelly clay loam
 Layer 3--43 to 45 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 7 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R021XE044CA--Cool loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Hart Camp very stony loam and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, basin wildrye, Idaho fescue, Canby bluegrass, antelope bitterbrush, Thurber needlegrass
 Ecological site: R021XE174CA--Stony loam 12-16

Rock outcrop

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Ecological site: None assigned

Madeline very stony loam and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 15 percent
 Landform: Toeslopes of mountains
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, Thurber needlegrass
 Ecological site: R021XE179CA--Warm stony loam 12-16

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

241--Honlak loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Alluvial plain
 Elevation: 4,000 to 4,010
 Precipitation: 9 to 12 inches
 Air temperature: 49 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Honlak loam, 0 to 2 percent slopes--80 percent
 Herjun silt loam, 0 to 2 percent slopes--6 percent
 Standish fine sandy loam, 0 to 2 percent slopes--5 percent
 Humboldt silty clay loam, 0 to 2 percent slopes--5 percent
 McDermott silt loam, 0 to 2 percent slopes--4 percent

Component Description**Honlak loam and similar soils**

Landform: Fan remnants

Slope: 0 to 2 percent

Parent material: Alluvium derived from mixed rocks

Typical vegetation: Beardless wildrye, basin wildrye, rush, western wheatgrass, bluegrass, alkaligrass, inland saltgrass, black greasewood

Typical profile:

Layer 1--0 to 4 inches; loam

Layer 2--4 to 20 inches; sandy clay loam

Layer 3--20 to 28 inches; loam

Layer 4--28 to 35 inches; coarse sandy loam

Layer 5--35 to 46 inches; loam

Layer 6--46 to 60 inches; sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 6 inches

Present flooding: None

Water table: Present

Natural drainage class: Somewhat poorly drained

Interpretive Groups

Nonirrigated land capability: 7w

Ecological site: R023XG058CA--Saline-sodic subirrigated 6-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Herjun silt loam and similar soils**

Composition: 0 to 6 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Western wheatgrass, inland saltgrass, basin wildrye, rush, bluegrass, alkaligrass, black greasewood

Ecological site: R023XG058CA--Saline-sodic subirrigated 6-16

Standish fine sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Basin big sagebrush, rabbitbrush, inland saltgrass, basin wildrye, black greasewood

Ecological site: R023XG059CA--Saline-sodic loam 6-12

Humboldt silty clay loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Flood plains

Ecological site: None assigned

McDermott silt loam and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Basin big sagebrush, basin wildrye, black greasewood, bottlebrush squirreltail

Ecological site: R023XG048CA--Sodic loam 6-9

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

242--Horsecamp cobbly silty clay, 2 to 9 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Plateau

Elevation: 4,300 to 5,600

Precipitation: 9 to 12 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Horsecamp cobbly silty clay, 2 to 9 percent slopes--85 percent

Devada very stony loam, 2 to 5 percent slopes--4 percent

Ravendale silty clay, 0 to 2 percent slopes--3 percent

Brubeck very cobbly clay, 2 to 9 percent slopes--2 percent

Rock outcrop, 5 to 9 percent slopes--2 percent

Tunnison very cobbly clay, 2 to 9 percent slopes--2 percent

Longcreek very stony loam, 5 to 9 percent slopes--2 percent

Component Description**Horsecamp and similar soils**

Landform: Plateaus

Slope: 2 to 9 percent

Parent material: Residuum weathered from volcanic rock

Typical vegetation: Littleleaf horsebrush, Thurber needlegrass, bottlebrush squirreltail, beardless wildrye, big sagebrush, western wheatgrass, rubber rabbitbrush

Typical profile:

Surface rock fragments: About 10 percent cobbles, 3 percent stones
 Layer 1--0 to 2 inches; cobbly silty clay
 Layer 2--2 to 27 inches; silty clay
 Layer 3--27 to 46 inches; silty clay
 Layer 4--46 to 50 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches
 Permeability class (root zone): Slow
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R023XF084CA--Clay upland 9-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada very stony loam and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 5 percent
 Landform: Plateaus
 Typical vegetation: Bluebunch wheatgrass, low sagebrush, bluegrass, Thurber needlegrass
 Ecological site: R023XF081CA--Shallow stony loam 9-12

Ravendale silty clay and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Basin floors
 Typical vegetation: Western wheatgrass, silver sagebrush, beardless wildrye, Nevada bluegrass
 Ecological site: R023XF092CA--Clay floodplain 9-16

Brubeck very cobbly clay and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 9 percent
 Landform: Plateaus
 Typical vegetation: Western wheatgrass, big sagebrush, rubber rabbitbrush, beardless wildrye, bottlebrush squirreltail, Thurber needlegrass, littleleaf horsebrush

Ecological site: R023XF084CA--Clay upland 9-16

Rock outcrop

Composition: 0 to 2 percent
 Slope: 5 to 9 percent
 Landform: Plateaus
 Ecological site: None assigned

Tunnison very cobbly clay and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 9 percent
 Landform: Plateaus
 Typical vegetation: Rubber rabbitbrush, beardless wildrye, bottlebrush squirreltail, Thurber needlegrass, western wheatgrass, big sagebrush, littleleaf horsebrush
 Ecological site: R023XF093CA--Shallow clay 9-16

Longcreek very stony loam and similar soils

Composition: 0 to 2 percent
 Slope: 5 to 9 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, basin wildrye, antelope bitterbrush, Thurber needlegrass
 Ecological site: R023XF082CA

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

243--Horsecamp-Brubeck association, 2 to 9 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 4,300 to 5,600
 Precipitation: 9 to 12 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Horsecamp cobbly silty clay, 2 to 9 percent slopes--45 percent
 Brubeck very cobbly clay, 2 to 9 percent slopes--40 percent
 Ravendale silty clay, 0 to 2 percent slopes--4 percent
 Gerlach silty clay, 2 to 5 percent slopes--4 percent

Devada very stony loam, 2 to 9 percent slopes--3 percent
 Rock outcrop, 5 to 9 percent slopes--2 percent
 Longcreek very stony loam, 2 to 9 percent slopes--2 percent

Component Description

Horsecamp and similar soils

Landform: Plateaus
 Slope: 2 to 9 percent
 Parent material: Residuum weathered from volcanic rock
 Typical vegetation: Rubber rabbitbrush, big sagebrush, beardless wildrye, bottlebrush squirreltail, Thurber needlegrass, littleleaf horsebrush, western wheatgrass

Typical profile:

Surface rock fragments: About 30 percent cobbles, 3 percent stones
 Layer 1--0 to 2 inches; cobbly silty clay
 Layer 2--2 to 27 inches; silty clay
 Layer 3--27 to 46 inches; silty clay
 Layer 4--46 to 50 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches
 Permeability class (root zone): Slow
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF084CA--Clay upland 9-16

Component Description

Brubeck and similar soils

Landform: Plateaus
 Slope: 2 to 9 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Thurber needlegrass, littleleaf horsebrush, bottlebrush squirreltail, beardless wildrye, western wheatgrass, big sagebrush, rubber rabbitbrush

Typical profile:

Surface rock fragments: About 30 percent cobbles, 5 percent stones
 Layer 1--0 to 2 inches; very cobbly clay
 Layer 2--2 to 32 inches; clay
 Layer 3--32 to 42 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF084CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Ravendale silty clay and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Basin floors
 Typical vegetation: Western wheatgrass, silver sagebrush, beardless wildrye, Nevada bluegrass
 Ecological site: R023XF092CA--Clay floodplain 9-16

Gerlach silty clay and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 5 percent
 Landform: Alluvial flats
 Typical vegetation: Big sagebrush, saltbush, spiny hopsage, black greasewood, bottlebrush squirreltail
 Ecological site: R023XF085CA--Silty clay flat 9-12

Devada very stony loam and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 9 percent
 Landform: Plateaus
 Typical vegetation: Bluebunch wheatgrass, low sagebrush, bluegrass, Thurber needlegrass
 Ecological site: R023XF081CA

Rock outcrop

Composition: 0 to 2 percent
 Slope: 5 to 9 percent
 Landform: Plateaus
 Ecological site: None assigned

Longcreek very stony loam and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 9 percent, north aspect
 Landform: Backslopes of mountains

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, basin wildrye, antelope bitterbrush, Thurber needlegrass

Ecological site: R023XF082CA

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

244--Horsecamp-Hunnton complex, 2 to 9 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 4,500 to 4,800

Precipitation: 9 to 12 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 90 to 100 days

Composition

Horsecamp very cobbly silty clay, 2 to 9 percent slopes--45 percent

Hunnton very cobbly silt loam, 2 to 9 percent slopes--40 percent

Puls very cobbly loam, 2 to 5 percent slopes--5 percent

Corral very cobbly loam, 5 to 9 percent slopes--5 percent

Cochran very cobbly loam, 2 to 9 percent slopes--5 percent

Component Description

Horsecamp and similar soils

Landform: Plateaus

Slope: 2 to 9 percent

Parent material: Residuum weathered from volcanic rock

Typical vegetation: Thurber needlegrass, bottlebrush squirreltail, littleleaf horsebrush, beardless wildrye, rubber rabbitbrush, big sagebrush, western wheatgrass

Typical profile:

Surface rock fragments: About 30 percent cobbles, 2 percent stones

Layer 1--0 to 2 inches; very cobbly silty clay

Layer 2--2 to 46 inches; silty clay

Layer 3--46 to 50 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Permeability class (root zone): Slow

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XF084CA--Clay upland 9-16

Component Description

Hunnton and similar soils

Landform: Fan remnants

Slope: 2 to 9 percent

Parent material: Alluvium derived from mixed rocks

Typical vegetation: Other shrubs, Thurber needlegrass, antelope bitterbrush, basin wildrye, Wyoming big sagebrush, bluebunch wheatgrass, other perennial forbs, other perennial grasses

Typical profile:

Surface rock fragments: About 20 percent cobbles

Layer 1--0 to 5 inches; very cobbly silt loam

Layer 2--5 to 22 inches; gravelly clay

Layer 3--22 to 60 inches; indurated

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Duripan: 22 to 30 inches

Permeability class (root zone): Slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XF082CA--Stony loam 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Puls very cobbly loam and similar soils

Composition: 0 to 5 percent

Slope: 2 to 5 percent

Landform: Plateaus

Typical vegetation: Idaho fescue, bluegrass, antelope bitterbrush, Thurber needlegrass, low sagebrush, bluebunch wheatgrass
 Ecological site: R021XE173CA--Shallow stony loam 12-16

Corral very cobbly loam and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 9 percent
 Landform: Rock pediments
 Typical vegetation: Big sagebrush, Thurber needlegrass, bluebunch wheatgrass, basin wildrye
 Ecological site: R023XF082CA--Stony loam 9-12

Cochran very cobbly loam and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 9 percent
 Landform: Lake terraces
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, needlegrass, antelope bitterbrush
 Ecological site: R021XE174CA--Stony loam 12-16

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

245--Horsecamp-Mahala association, 0 to 9 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 5,600 to 5,700
 Precipitation: 10 to 12 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Horsecamp cobbly silty clay, 0 to 9 percent slopes--55 percent
 Mahala very cobbly silt loam, 0 to 9 percent slopes--35 percent
 Sumine cobbly loam, 9 to 15 percent slopes--5 percent
 Boulder Lake silty clay, 0 to 2 percent slopes--5 percent

Component Description

Horsecamp and similar soils

Landform: Plateaus
 Slope: 0 to 9 percent

Parent material: Residuum weathered from volcanic rock
 Typical vegetation: Western wheatgrass, big sagebrush, rubber rabbitbrush, beardless wildrye, bottlebrush squirreltail, Thurber needlegrass, littleleaf horsebrush

Typical profile:

Surface rock fragments: About 15 percent cobbles
 Layer 1--0 to 2 inches; cobbly silty clay
 Layer 2--2 to 27 inches; silty clay
 Layer 3--27 to 46 inches; silty clay
 Layer 4--46 to 50 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches
 Permeability class (root zone): Slow
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R023XF084CA--Clay upland 9-16

Component Description

Mahala very cobbly silt loam and similar soils

Landform: Plateaus
 Slope: 0 to 9 percent
 Parent material: Loess over residuum weathered from tuff
 Typical vegetation: Bluebunch wheatgrass, low sagebrush, bluegrass, Thurber needlegrass

Typical profile:

Surface rock fragments: About 30 percent cobbles, 2 percent stones
 Layer 1--0 to 3 inches; very cobbly silt loam
 Layer 2--3 to 16 inches; clay
 Layer 3--16 to 36 inches; clay
 Layer 4--36 to 46 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Very slow
 Available water capacity: About 5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XF081CA--Shallow stony loam 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Sumine cobbly loam and similar soils**

Composition: 0 to 5 percent

Slope: 9 to 15 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Thurber needlegrass, oceanspray,

Idaho fescue, basin wildrye, mountain brome,

mountain big sagebrush, bluebunch wheatgrass

Ecological site: R021XE176CA

Boulder Lake silty clay and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Basin floors

Typical vegetation: Western wheatgrass, silver sagebrush,

beardless wildrye, mat muhly, Nevada bluegrass,

sedge, rush, bottlebrush squirreltail

Ecological site: R023XF092CA--Clay floodplain 9-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

246--Humboldt silty clay, 0 to 2 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Alluvial plain

Elevation: 4,020 to 4,030

Precipitation: 9 to 12 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Humboldt silty clay, 0 to 2 percent slopes--80 percent

Humboldt silty clay, 0 to 2 percent slopes, frequently flooded--8 percent

Truckee loam, 0 to 2 percent slopes--7 percent

Humboldt silty clay loam, saline, 0 to 2 percent slopes--5 percent

Component Description**Humboldt silty clay and similar soils**

Landform: Flood plains

Slope: 0 to 2 percent

Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 21 inches; silty clay

Layer 2--21 to 60 inches; stratified silty clay loam to clay

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Available water capacity: About 10 inches

Present flooding: Rare

Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 3w-2

Nonirrigated land capability: 6w

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Humboldt silty clay and similar soils**

Composition: 0 to 8 percent

Slope: 0 to 2 percent

Landform: Flood plains

Ecological site: None assigned

Truckee loam and similar soils

Composition: 0 to 7 percent

Slope: 0 to 2 percent

Landform: Flood plains

Ecological site: None assigned

Humboldt silty clay loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Flood plains

Ecological site: None assigned

Management

Major uses: Livestock grazing, irrigated hay and pasture, wildlife habitat

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

247--Humboldt silty clay, 0 to 1 percent slopes, occasionally flooded

Map Unit Setting

MLRA: 23
 Landscape: Alluvial plain
 Elevation: 4,050 to 4,150
 Precipitation: 9 to 12 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Humboldt silty clay, 0 to 1 percent slopes--80 percent
 Rices clay loam, 0 to 1 percent slopes--5 percent
 Truckee loam, 0 to 1 percent slopes--4 percent
 Smocreek silty clay loam, 0 to 1 percent slopes--4 percent
 Saddlerock silty clay, 0 to 1 percent slopes--4 percent
 Riverwash, 0 to 1 percent slopes--3 percent

Component Description

Humboldt silty clay and similar soils

Landform: Flood plains
 Slope: 0 to 1 percent
 Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 21 inches; silty clay
 Layer 2--21 to 60 inches; stratified silty clay loam to clay

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Permeability class (root zone): Slow
 Available water capacity: About 11 inches
 Present flooding: Occasional
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 3w-2
 Nonirrigated land capability: 6w
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rices clay loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 1 percent
 Landform: Lake terraces
 Ecological site: None assigned

Truckee loam and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 1 percent
 Landform: Flood plains
 Ecological site: None assigned

Smocreek and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 1 percent
 Landform: Stream terraces
 Typical vegetation: Basin big sagebrush, basin wildrye
 Ecological site: R023XF088CA--Loamy bottom 9-16

Saddlerock silty clay and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 1 percent
 Landform: Flood plains
 Ecological site: None assigned

Riverwash

Composition: 0 to 3 percent
 Slope: 0 to 1 percent
 Landform: Channels
 Ecological site: None assigned

Management

Major uses: Irrigated hay and pasture, wildlife habitat
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

248--Humboldt silty clay, 0 to 1 percent slopes, ponded

Map Unit Setting

MLRA: 23
 Landscape: Alluvial plain
 Elevation: 3,990 to 3,990
 Precipitation: 9 to 12 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Humboldt silty clay, 0 to 1 percent slopes--85 percent
 Humboldt silty clay loam, saline, 0 to 1 percent slopes--8 percent
 Humboldt silty clay, 0 to 1 percent slopes, frequently flooded--7 percent

Component Description**Humboldt silty clay and similar soils**

Landform: Flood plains

Slope: 0 to 1 percent

Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 21 inches; silty clay

Layer 2--21 to 60 inches; stratified silty clay loam to clay

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Available water capacity: About 11 inches

Present flooding: Occasional

Present ponding: Frequent

Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 5w

Nonirrigated land capability: 5w

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Humboldt silty clay loam and similar soils**

Composition: 0 to 8 percent

Slope: 0 to 1 percent

Landform: Flood plains

Ecological site: None assigned

Humboldt silty clay and similar soils

Composition: 0 to 7 percent

Slope: 0 to 1 percent

Landform: Flood plains

Ecological site: None assigned

Management

Major uses: Livestock grazing, irrigated hay and pasture, wildlife habitat

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

249--Humboldt silty clay loam, saline, 0 to 2 percent slopes, occasionally flooded**Map Unit Setting**

MLRA: 23

Landscape: Alluvial plain

Elevation: 4,000 to 4,050

Precipitation: 9 to 12 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Humboldt silty clay loam, saline, 0 to 2 percent slopes, occasionally flooded--85 percent

Humboldt silty clay, 0 to 2 percent slopes, frequently flooded--8 percent

Saddlerock silty clay, 0 to 2 percent slopes--7 percent

Component Description**Humboldt silty clay loam and similar soils**

Landform: Flood plains

Slope: 0 to 2 percent

Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 21 inches; silty clay loam

Layer 2--21 to 60 inches; stratified silty clay loam to clay

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Permeability class (root zone): Moderately slow

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 11 inches

Present flooding: Occasional

Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 3w-2

Nonirrigated land capability: 6w

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Humboldt silty clay and similar soils**

Composition: 0 to 8 percent

Slope: 0 to 2 percent

Landform: Flood plains

Ecological site: None assigned

Saddlerock silty clay, drained and similar soils

Composition: 0 to 7 percent

Slope: 0 to 2 percent

Landform: Stream terraces

Typical vegetation: Basin big sagebrush, basin wildrye

Ecological site: R023XF088CA--Loamy bottom 9-16

Management

Major uses: Livestock grazing, irrigated hay and pasture, wildlife habitat

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

Layer 2--2 to 5 inches; gravelly fine sandy loam

Layer 3--5 to 22 inches; gravelly clay

Layer 4--22 to 60 inches; indurated

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Duripan: 22 to 30 inches

Permeability class (root zone): Slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XF082CA--Stony loam 9-12

250--Hunnton-Shinnpeak association, 2 to 9 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Fan piedmont

Elevation: 4,500 to 4,800

Precipitation: 9 to 12 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 90 to 100 days

Composition

Hunnton cobbly sandy loam, 2 to 9 percent slopes--55 percent

Shinnpeak very cobbly sandy loam, 2 to 9 percent slopes--30 percent

Brubeck very cobbly clay, 2 to 9 percent slopes--5 percent

Corral very cobbly loam, 2 to 9 percent slopes--4 percent

Rock outcrop, 5 to 9 percent slopes--3 percent

Barnard stony sandy loam, 2 to 9 percent slopes--3 percent

Component Description**Hunnton cobbly sandy loam and similar soils**

Landform: Fan terraces

Slope: 2 to 9 percent

Parent material: Alluvium derived from mixed rocks

Typical vegetation: Bluebunch wheatgrass, Wyoming big sagebrush, basin wildrye, other perennial forbs, other perennial grasses, antelope bitterbrush, other shrubs, Thurber needlegrass

Typical profile:

Surface rock fragments: About 10 percent cobbles, 2 percent stones

Layer 1--0 to 2 inches; cobbly sandy loam

Component Description**Shinnpeak very cobbly sandy loam and similar soils**

Landform: Fan remnants

Slope: 2 to 9 percent

Parent material: Alluvium derived from mixed rocks

Typical vegetation: Bluebunch wheatgrass, black sagebrush, Sandberg bluegrass, other perennial forbs, other perennial grasses, bottlebrush squirreltail, other shrubs, Thurber needlegrass

Typical profile:

Surface rock fragments: About 20 percent cobbles, 5 percent stones

Layer 1--0 to 2 inches; very cobbly sandy loam

Layer 2--2 to 13 inches; very gravelly sandy clay loam

Layer 3--13 to 22 inches; indurated

Layer 4--22 to 60 inches; cemented

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Duripan: 13 to 20 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 1.0 inch

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XF087CA--Very shallow stony loam 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Brubeck very cobbly clay and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 9 percent

Landform: Plateaus

Typical vegetation: Big sagebrush, littleleaf horsebrush,
Thurber needlegrass, bottlebrush squirreltail, beardless
wildrye, rubber rabbitbrush, western wheatgrass

Ecological site: R023XF084CA--Clay upland 9-16

Corral very cobbly loam and similar soils

Composition: 0 to 4 percent

Slope: 2 to 9 percent

Landform: Rock pediments

Typical vegetation: Thurber needlegrass, big sagebrush,
bluebunch wheatgrass, basin wildrye

Ecological site: R023XF082CA--Stony loam 9-12

Rock outcrop

Composition: 0 to 3 percent

Slope: 5 to 9 percent

Landform: Plateaus

Ecological site: None assigned

Barnard stony sandy loam and similar soils

Composition: 0 to 3 percent

Slope: 2 to 9 percent

Landform: Fan remnants

Typical vegetation: Thurber needlegrass, antelope
bitterbrush, basin wildrye, Wyoming big sagebrush,
bluebunch wheatgrass

Ecological site: R023XF082CA--Stony loam 9-12

Management

Major uses: Livestock grazing

For information about managing this map unit, see the
following sections and associated tables in Part II of
this publication:

"Range" section

"Engineering" section

"Soil Properties" section

251--Incy fine sand, 0 to 5 percent slopes***Map Unit Setting***

MLRA: 26

Landscape: Alluvial plain

Elevation: 4,100 to 4,200

Precipitation: 9 to 12 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Incy fine sand, 0 to 5 percent slopes--90 percent

Mottsville gravelly loamy coarse sand, 0 to 5 percent
slopes--5 percent

Orr sandy loam, 0 to 2 percent slopes--5 percent

Component Description***Incy fine sand and similar soils***

Landform: Dunes

Slope: 0 to 5 percent

Parent material: Eolian sands

Typical vegetation: Antelope bitterbrush, needleandthread,
Indian ricegrass, arrowleaf balsamroot, western
wheatgrass, Wyoming big sagebrush, sand dropseed***Typical profile:***

Layer 1--0 to 9 inches; fine sand

Layer 2--9 to 60 inches; fine sand

See "Chemical Properties of Soils" table and the "Physical
Properties of Soils" table for more information.***Component Properties and Qualities***

Runoff: Negligible

Permeability class (root zone): Very rapid

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Excessively drained

Interpretive Groups

Irrigated land capability: 4s-4

Nonirrigated land capability: 7s

Ecological site: R026XF022CA

Typical soil descriptions including ranges in characteristics
are in the "Classification of the Soils" section.***Contrasting Inclusions*****Mottsville gravelly loamy coarse sand and similar
soils**

Composition: 0 to 5 percent

Slope: 0 to 5 percent

Landform: Fan remnants

Typical vegetation: Bottlebrush squirreltail, basin big
sagebrush, desert needlegrass, needleandthread,
antelope bitterbrush, desert peach, Indian ricegrass

Ecological site: R026XF051CA

Orr sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Fan remnants

Typical vegetation: Yellow rabbitbrush, beardless wildrye,
Indian ricegrass, Anderson peachbrush, antelope
bitterbrush, needleandthread, Wyoming big sagebrush

Ecological site: R026XF051CA--Granitic fan 9-12

Management

Major uses: Livestock grazing, wildlife habitat, urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
"Crops and Pasture" section
"Engineering" section
"Soil Properties" section

252--Incy fine sand, 5 to 30 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Alluvial plain
Elevation: 4,300 to 5,500
Precipitation: 9 to 14 inches
Air temperature: 44 to 50 degrees Fahrenheit
Frost-free period: 60 to 130 days

Composition

Incy fine sand, 5 to 30 percent slopes--85 percent
Orhood very stony loam, 5 to 30 percent slopes--5 percent
Fordney loamy sand, 2 to 5 percent slopes--5 percent
Devada very stony loam, 15 to 30 percent slopes--5 percent

Component Description

Incy fine sand and similar soils

Landform: Dunes
Slope: 5 to 30 percent
Parent material: Eolian sands
Typical vegetation: Needleandthread, western wheatgrass, Wyoming big sagebrush, arrowleaf balsamroot, Indian ricegrass, antelope bitterbrush, sand dropseed

Typical profile:

Layer 1--0 to 9 inches; fine sand
Layer 2--9 to 60 inches; fine sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low
Permeability class (root zone): Very rapid
Available water capacity: About 4 inches
Present flooding: None
Natural drainage class: Excessively drained

Interpretive Groups

Irrigated land capability: 4s-4

Nonirrigated land capability: 7s

Ecological site: R026XF022CA--Granitic sand 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Orhood very stony loam and similar soils

Composition: 0 to 5 percent
Slope: 5 to 30 percent
Landform: Backslopes of mountains
Typical vegetation: Forest canopy--western juniper, Forest understory--bluebunch wheatgrass, rabbitbrush, Lemmon needlegrass, Idaho fescue, Thurber needlegrass, Sandberg bluegrass, arrowleaf balsamroot, antelope bitterbrush, mountain big sagebrush
Ecological site: R021XE174CA--Stony loam 12-16

Fordney loamy sand and similar soils

Composition: 0 to 5 percent
Slope: 2 to 5 percent
Landform: Fan remnants
Typical vegetation: Mountain big sagebrush, beardless wildrye, antelope bitterbrush, needleandthread, Idaho fescue
Ecological site: R021XE180CA--Sandy loam fan 12-16

Devada very stony loam and similar soils

Composition: 0 to 5 percent
Slope: 15 to 30 percent
Landform: Plateaus
Typical vegetation: Bluegrass, Thurber needlegrass, low sagebrush, bluebunch wheatgrass
Ecological site: R023XF081CA--Shallow stony loam 9-12

Management

Major uses: Livestock grazing, wildlife habitat

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
"Forest land" section
"Crops and Pasture" section
"Engineering" section
"Soil Properties" section

253--Indiano-Graufels association, 15 to 30 percent slopes

Map Unit Setting

MLRA: 26
Landscape: Foothills
Elevation: 4,300 to 4,600

Precipitation: 10 to 12 inches
 Air temperature: 48 to 50 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Indiano gravelly sandy loam, 15 to 30 percent slopes--55 percent
 Graufels gravelly loamy coarse sand, 15 to 30 percent slopes--30 percent
 Indiano gravelly sandy loam, 15 to 30 percent slopes, extremely stony--8 percent
 Glenbrook gravelly loamy coarse sand, 15 to 30 percent slopes--7 percent

Component Description

Indiano gravelly sandy loam and similar soils

Landform: Backslopes of hills
 Slope: 15 to 30 percent, south aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Indian ricegrass, basin wildrye, Wyoming big sagebrush, Sandberg bluegrass, other shrubs, other perennial forbs, other perennial grasses, antelope bitterbrush, bottlebrush squirreltail, Thurber needlegrass

Typical profile:

Layer 1--0 to 8 inches; gravelly sandy loam
 Layer 2--8 to 38 inches; gravelly clay loam
 Layer 3--38 to 42 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 7 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R026XF052CA--Granitic upland 9-12

Component Description

Graufels gravelly loamy coarse sand and similar soils

Landform: Backslopes of hills
 Slope: 15 to 30 percent, north aspect
 Parent material: Colluvium derived from granite and residuum weathered from granite

Typical vegetation: Wyoming big sagebrush, green ephedra, Anderson peachbrush, antelope bitterbrush, needlegrass, bluebunch wheatgrass

Typical profile:

Layer 1--0 to 14 inches; gravelly loamy coarse sand
 Layer 2--14 to 22 inches; sand
 Layer 3--22 to 26 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Rapid
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R026XF052CA--Granitic upland 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Indiano and similar soils

Composition: 0 to 8 percent
 Slope: 15 to 30 percent, south aspect
 Landform: Backslopes of hills
 Typical vegetation: Thurber needlegrass, Wyoming big sagebrush, other shrubs, antelope bitterbrush, other perennial grasses, basin wildrye, Indian ricegrass, Sandberg bluegrass, bottlebrush squirreltail, other perennial forbs
 Ecological site: R026XF052CA

Glenbrook and similar soils

Composition: 0 to 7 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of mountains
 Typical vegetation: Bottlebrush squirreltail, yellow rabbitbrush, green ephedra, big sagebrush, other perennial forbs, other perennial grasses, Thurber needlegrass, desert needlegrass, other shrubs, antelope bitterbrush
 Ecological site: R026XF053CA--Shallow granitic upland 9-12

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
"Engineering" section
"Soil Properties" section

254--Indiano-Searles association, 5 to 30 percent slopes

Map Unit Setting

MLRA: 21
Landscape: Mountains
Elevation: 5,400 to 6,000
Precipitation: 12 to 14 inches
Air temperature: 45 to 47 degrees Fahrenheit
Frost-free period: 80 to 100 days

Composition

Indiano very stony loam, 5 to 30 percent slopes--45 percent
Searles very stony loam, 5 to 30 percent slopes--35 percent
Devada very stony loam, 5 to 15 percent slopes--5 percent
Brubeck very cobbly clay, 2 to 9 percent slopes--5 percent
Rock outcrop, 15 to 30 percent slopes--4 percent
Horsecamp cobbly silty clay, 5 to 9 percent slopes--4 percent
Petescreek very gravelly loam, 5 to 15 percent slopes--2 percent

Component Description

Indiano very stony loam and similar soils

Landform: Backslopes of mountains
Slope: 5 to 30 percent
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, basin wildrye, Thurber needlegrass, antelope bitterbrush

Typical profile:

Surface rock fragments: About 10 percent cobbles, 20 percent stones
Layer 1--0 to 3 inches; very stony loam
Layer 2--3 to 7 inches; gravelly loam
Layer 3--7 to 11 inches; cobbly loam
Layer 4--11 to 18 inches; gravelly clay loam
Layer 5--18 to 27 inches; cobbly clay loam
Layer 6--27 to 31 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
Permeability class (root zone): Moderately slow
Available water capacity: About 4 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R021XE179CA--Warm stony loam 12-16

Component Description

Searles very stony loam and similar soils

Landform: Backslopes of mountains
Slope: 5 to 30 percent, north aspect
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
Typical vegetation: Antelope bitterbrush, mountain big sagebrush, Thurber needlegrass, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15 percent stones
Layer 1--0 to 13 inches; very stony loam
Layer 2--13 to 29 inches; very cobbly clay loam
Layer 3--29 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
Permeability class (root zone): Moderately slow
Available water capacity: About 3 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R021XE179CA--Warm stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada very stony loam and similar soils

Composition: 0 to 5 percent
Slope: 5 to 15 percent
Landform: Backslopes of mountains

Typical vegetation: Thurber needlegrass, antelope bitterbrush, bluegrass, Idaho fescue, low sagebrush, bluebunch wheatgrass
 Ecological site: R021XE173CA--Shallow stony loam 12-16

Brubeck very cobbly clay and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 9 percent
 Landform: Plateaus
 Typical vegetation: Bottlebrush squirreltail, beardless wildrye, rubber rabbitbrush, big sagebrush, littleleaf horsebrush, Thurber needlegrass, western wheatgrass
 Ecological site: R023XF084CA--Clay upland 9-16

Rock outcrop

Composition: 0 to 4 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Ecological site: None assigned

Horsecamp cobbly silty clay and similar soils

Composition: 0 to 4 percent
 Slope: 5 to 9 percent
 Landform: Plateaus
 Typical vegetation: Western wheatgrass, big sagebrush, rubber rabbitbrush, beardless wildrye, bottlebrush squirreltail, Thurber needlegrass, littleleaf horsebrush
 Ecological site: R023XF084CA

Petescreek very gravelly loam and similar soils

Composition: 0 to 2 percent
 Slope: 5 to 15 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Needlegrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, bluegrass
 Ecological site: R021XE044CA--Cool loam 12-16

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

255--Indiano-Searles association, 30 to 50 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 4,500 to 5,000
 Precipitation: 12 to 14 inches

Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Indiano very stony loam, 30 to 50 percent slopes--55 percent
 Searles very stony loam, 30 to 50 percent slopes--35 percent
 Fivesprings very stony loam, 30 to 50 percent slopes--5 percent
 Chalco gravelly fine sandy loam, 5 to 9 percent slopes--5 percent

Component Description

Indiano very stony loam and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent, north aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Bluebunch wheatgrass, Thurber needlegrass, antelope bitterbrush, mountain big sagebrush, basin wildrye

Typical profile:

Surface rock fragments: About 10 percent cobbles, 10 percent stones
 Layer 1--0 to 3 inches; very stony loam
 Layer 2--3 to 7 inches; cobbly loam
 Layer 3--7 to 27 inches; cobbly clay loam
 Layer 4--27 to 31 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R021XE179CA--Warm stony loam 12-16

Component Description

Searles very stony loam and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent, south aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15 percent stones

Layer 1--0 to 13 inches; very stony loam

Layer 2--13 to 29 inches; very cobbly clay loam

Layer 3--29 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R021XE179CA--Warm stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Fivesprings very stony loam and similar soils**

Composition: 0 to 5 percent

Slope: 30 to 50 percent, south aspect

Landform: Backslopes of mountains

Typical vegetation: Thurber needlegrass, antelope bitterbrush, mountain big sagebrush, bluebunch wheatgrass

Ecological site: R021XE179CA

Chalco gravelly fine sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 5 to 9 percent

Landform: Plateaus

Typical vegetation: Littleleaf horsebrush, low sagebrush, Sandberg bluegrass, other perennial grasses, bottlebrush squirreltail, Thurber needlegrass

Ecological site: R021XE184CA--Shallow loam 12-16

Management

Major uses: Livestock grazing, wildlife habitat

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

256--Indiano-Zephan-Duco association, 30 to 50 percent slopes***Map Unit Setting***

MLRA: 26

Landscape: Mountains

Elevation: 5,000 to 5,600

Precipitation: 12 to 14 inches

Air temperature: 45 to 47 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Indiano stony fine sandy loam, 30 to 50 percent slopes--45 percent

Zephan stony sandy loam, 30 to 50 percent slopes--30 percent

Duco very gravelly loam, 30 to 50 percent slopes--15 percent

Barnard stony sandy loam, 5 to 15 percent slopes--2 percent

Graufels bouldery sand, 30 to 50 percent slopes--2 percent

Glenbrook gravelly loamy coarse sand, 30 to 50 percent slopes--2 percent

Glean very stony loam, 30 to 50 percent slopes--2 percent

Corral very cobbly loam, 30 to 50 percent slopes--2 percent

Component Description**Indiano stony fine sandy loam and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 50 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Thurber needlegrass, other perennial grasses, antelope bitterbrush, other perennial forbs, basin wildrye, Wyoming big sagebrush, bluebunch wheatgrass, other shrubs

Typical profile:

Surface rock fragments: About 5 percent cobbles, 10 percent stones

Layer 1--0 to 7 inches; stony fine sandy loam

Layer 2--7 to 27 inches; gravelly clay loam

Layer 3--27 to 31 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderately slow
 Available water capacity: About 5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF082CA--Stony loam 9-12

Component Description

Zephan stony sandy loam and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent, south aspect
 Parent material: Colluvium derived from metavolcanics and residuum weathered from metavolcanics
 Typical vegetation: Thurber needlegrass, antelope bitterbrush, western wheatgrass, Wyoming big sagebrush, basin wildrye

Typical profile:

Surface rock fragments: About 3 percent cobbles, 3 percent stones
 Layer 1--0 to 4 inches; stony sandy loam
 Layer 2--4 to 26 inches; very cobbly clay loam
 Layer 3--26 to 42 inches; weathered bedrock
 Layer 4--42 to 46 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 26 to 42 inches
 Bedrock (lithic): 40 to 50 inches
 Permeability class (root zone): Slow
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF082CA--Stony loam 9-12

Component Description

Duco and similar soils

Landform: Ridges
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--western juniper, Forest understory--western juniper, western juniper, western juniper, western juniper, western juniper
 Site index: Western juniper--38 at an age base of 50 years

Typical profile:

Surface rock fragments: About 5 percent cobbles, 5 percent stones
 Layer 1--0 to 10 inches; very gravelly loam
 Layer 2--10 to 19 inches; very gravelly clay loam
 Layer 3--19 to 23 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Barnard stony sandy loam and similar soils

Composition: 0 to 2 percent
 Slope: 5 to 15 percent
 Landform: Fan remnants
 Typical vegetation: Bluebunch wheatgrass, Wyoming big sagebrush, basin wildrye, antelope bitterbrush, Thurber needlegrass
 Ecological site: R023XF082CA--Stony loam 9-12

Graufels bouldery sand and similar soils

Composition: 0 to 2 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Antelope bitterbrush, needlegrass, Wyoming big sagebrush, Anderson peachbrush, green ephedra, bluebunch wheatgrass
 Ecological site: R026XF052CA

Glenbrook gravelly loamy coarse sand and similar soils

Composition: 0 to 2 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Bottlebrush squirreltail, other shrubs, desert needlegrass, Thurber needlegrass, antelope bitterbrush, other perennial grasses, other perennial forbs, green ephedra, yellow rabbitbrush, big sagebrush

Ecological site: R026XF053CA--Shallow granitic upland 9-12

Glean very stony loam and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Idaho fescue, antelope bitterbrush, mountain big sagebrush, needlegrass, bluebunch wheatgrass

Ecological site: R021XE174CA--Stony loam 12-16

Corral very cobbly loam and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Rock pediments

Typical vegetation: Basin wildrye, Thurber needlegrass, bluebunch wheatgrass, big sagebrush

Ecological site: R023XF082CA--Stony loam 9-12

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

257--Inville very gravelly sandy loam, 0 to 5 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Alluvial plain

Elevation: 5,000 to 5,300

Precipitation: 30 to 40 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Inville very gravelly sandy loam, 0 to 5 percent slopes--85 percent

Mountmed clay loam, 0 to 2 percent slopes--8 percent

Swainow very gravelly sandy loam, 2 to 9 percent slopes--7 percent

Component Description

Inville very gravelly sandy loam and similar soils

Landform: Alluvial fans

Slope: 0 to 5 percent

Parent material: Alluvium derived from mixed rocks

Typical vegetation: Forest canopy--Jeffrey pine, lodgepole pine, ponderosa pine; Forest understory--snowbrush ceanothus, manzanita, whitethorn ceanothus

Site index: Jeffrey pine--90 at an age base of 100 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 60

Typical profile:

Layer 1--0 to 10 inches; very gravelly sandy loam

Layer 2--10 to 21 inches; very cobbly loam

Layer 3--21 to 30 inches; extremely gravelly loam

Layer 4--30 to 60 inches; very gravelly loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: Low

Permeability class (root zone): Moderate

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Mountmed clay loam and similar soils

Composition: 0 to 8 percent

Slope: 0 to 2 percent

Landform: Flood plains

Ecological site: None assigned

Swainow very gravelly sandy loam and similar soils

Composition: 0 to 7 percent

Slope: 2 to 9 percent

Landform: Plateaus

Typical vegetation: Forest canopy--Jeffrey pine, ponderosa pine, white fir; Forest understory--mountain brome, needlegrass, manzanita, whitethorn ceanothus, snowbrush ceanothus

Ecological site: None assigned

Management

Major uses: Timber production, urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

258--Jauriga gravelly loam, 2 to 9 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 5,800 to 6,000
 Precipitation: 12 to 16 inches
 Air temperature: 45 to 47 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Jauriga gravelly loam, 2 to 9 percent slopes--85 percent
 Ninemile extremely cobbly loam, 2 to 9 percent slopes--8 percent
 Ladd sandy loam, 2 to 5 percent slopes--7 percent

Component Description

Jauriga gravelly loam and similar soils

Landform: Toeslopes of mountains
 Slope: 2 to 9 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Antelope bitterbrush, bluegrass, Idaho fescue, mountain big sagebrush, needlegrass

Typical profile:

Layer 1--0 to 9 inches; gravelly loam
 Layer 2--9 to 37 inches; gravelly loam
 Layer 3--37 to 49 inches; gravelly clay loam
 Layer 4--49 to 59 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 4e-4
 Ecological site: R021XE044CA--Cool loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Ninemile extremely cobbly loam and similar soils

Composition: 0 to 8 percent
 Slope: 2 to 9 percent
 Landform: Backslopes of plateaus, summits of plateaus
 Typical vegetation: Bluebunch wheatgrass, Idaho fescue, bluegrass, antelope bitterbrush, bottlebrush squirreltail, Thurber needlegrass, low sagebrush, balsamroot
 Ecological site: R021XE173CA--Shallow stony loam 12-16

Ladd sandy loam and similar soils

Composition: 0 to 7 percent
 Slope: 2 to 5 percent
 Landform: Fan remnants
 Typical vegetation: Antelope bitterbrush, bluegrass, Idaho fescue, needlegrass, mountain big sagebrush
 Ecological site: R021XE044CA--Cool loam 12-16

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

259--Jauriga-Buckbay-Fredonyer association, 5 to 30 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 5,300 to 6,000
 Precipitation: 12 to 16 inches
 Air temperature: 44 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Jauriga gravelly loam, 5 to 15 percent slopes--40 percent
 Buckbay gravelly loam, 5 to 15 percent slopes--25 percent
 Fredonyer very stony loam, 15 to 30 percent slopes--20 percent
 Rubble land, 15 to 30 percent slopes--5 percent
 Rock outcrop, 15 to 30 percent slopes--5 percent
 Petescreek gravelly loam, 5 to 30 percent slopes--5 percent

Component Description**Jauriga gravelly loam and similar soils**

Landform: Backslopes of mountains

Slope: 5 to 15 percent, south aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, Idaho fescue, needlegrass

Typical profile:

Layer 1--0 to 9 inches; gravelly loam

Layer 2--9 to 37 inches; gravelly loam

Layer 3--37 to 49 inches; gravelly clay loam

Layer 4--49 to 59 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE176CA--Loam 12-16

Component Description**Buckbay gravelly loam and similar soils**

Landform: Backslopes of mountains

Slope: 5 to 15 percent, north aspect

Parent material: Colluvium derived from andesite and residuum weathered from andesite

Typical vegetation: Forest canopy--western juniper, Forest understory--antelope bitterbrush, Idaho fescue, mountain big sagebrush, needlegrass, bluebunch wheatgrass

Site index: Western juniper--24 at an age base of 50 years

Typical profile:

Surface rock fragments: About 2 percent cobbles

Layer 1--0 to 12 inches; gravelly loam

Layer 2--12 to 22 inches; gravelly loam

Layer 3--22 to 29 inches; cobbly loam

Layer 4--29 to 39 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE176CA--Loam 12-16

Component Description**Fredonyer very stony loam and similar soils**

Landform: Ridges

Slope: 15 to 30 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Idaho fescue, curleaf mountain mahogany, mountain big sagebrush

Typical profile:

Surface rock fragments: About 3 percent cobbles, 25 percent stones

Layer 1--0 to 4 inches; very stony loam

Layer 2--4 to 12 inches; very gravelly loam

Layer 3--12 to 28 inches; very cobbly loam

Layer 4--28 to 38 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE178CA--Very stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Rubble land**

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Mountains

Ecological site: None assigned

Rock outcrop

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Ecological site: None assigned

Petescreek gravelly loam and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 30 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Needlegrass, antelope bitterbrush,
 Idaho fescue, mountain big sagebrush, bluebunch
 wheatgrass
 Ecological site: R021XE176CA

Management

Major uses: Livestock grazing, juniper wood products
 For information about managing this map unit, see the
 following sections and associated tables in Part II of
 this publication:
 "Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

260--Keddie loam, 0 to 2 percent slopes**Map Unit Setting**

MLRA: 21
 Landscape: Alluvial plain
 Elevation: 5,200 to 5,300
 Precipitation: 12 to 30 inches
 Air temperature: 44 to 46 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Keddie loam, 0 to 2 percent slopes--95 percent
 Dotta gravelly loam, 0 to 5 percent slopes--5 percent

Component Description**Keddie loam and similar soils**

Landform: Flood plains
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 34 inches; loam
 Layer 2--34 to 50 inches; stratified sandy loam to clay
 loam
 Layer 3--50 to 60 inches; stratified very gravelly loamy
 coarse sand to very gravelly sandy clay loam

See "Chemical Properties of Soils" table and the "Physical
 Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Permeability class (root zone): Moderate
 Available water capacity: About 9 inches
 Present flooding: Rare
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 4w-2
 Nonirrigated land capability: 4w-2
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics
 are in the "Classification of the Soils" section.

Contrasting Inclusions**Dotta gravelly loam and similar soils**

Composition: 0 to 5 percent
 Slope: 0 to 5 percent
 Landform: Stream terraces
 Typical vegetation: Needlegrass, bluegrass, antelope
 bitterbrush, Idaho fescue, mountain big sagebrush
 Ecological site: R021XE044CA--Cool loam 12-16

Management

Major uses: Livestock grazing, irrigated pasture
 For information about managing this map unit, see the
 following sections and associated tables in Part II of
 this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

261--Keddie clay loam, 0 to 1 percent slopes**Map Unit Setting**

MLRA: 21
 Landscape: Alluvial plain
 Elevation: 4,100 to 4,200
 Precipitation: 12 to 16 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Keddie clay loam, 0 to 1 percent slopes--85 percent
 Humboldt silty clay, 0 to 1 percent slopes--8 percent
 Massack loam, 0 to 1 percent slopes--7 percent

Component Description**Keddie clay loam and similar soils**

Landform: Flood plains

Slope: 0 to 1 percent
Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 8 inches; clay loam
Layer 2--8 to 42 inches; stratified sandy loam to clay loam
Layer 3--42 to 60 inches; silty clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
Permeability class (root zone): Slow
Available water capacity: About 10 inches
Present flooding: Occasional
Water table: Present
Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 3w-2
Nonirrigated land capability: 5w
Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Humboldt silty clay and similar soils

Composition: 0 to 8 percent
Slope: 0 to 1 percent
Landform: Flood plains
Ecological site: None assigned

Massack loam and similar soils

Composition: 0 to 7 percent
Slope: 0 to 1 percent
Landform: Flood plains
Ecological site: None assigned

Management

Major uses: Livestock grazing, irrigated hay and pasture
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" section
"Soil Properties" section

262--Ladd sandy loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 21
Landscape: Fan piedmonts

Elevation: 4,880 to 4,950
Precipitation: 12 to 16 inches
Air temperature: 47 to 49 degrees Fahrenheit
Frost-free period: 80 to 100 days

Composition

Ladd sandy loam, 0 to 2 percent slopes--85 percent
Dotta gravelly loam, 0 to 2 percent slopes--6 percent
Bieber sandy loam, 0 to 2 percent slopes--3 percent
Ladd sandy loam, 5 to 9 percent slopes--6 percent

Component Description

Ladd sandy loam and similar soils

Landform: Fan remnants
Slope: 0 to 2 percent
Parent material: Alluvium derived from granite
Typical vegetation: Needlegrass, bluegrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush

Typical profile:

Layer 1--0 to 8 inches; sandy loam
Layer 2--8 to 39 inches; sandy clay loam
Layer 3--39 to 72 inches; sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
Permeability class (root zone): Moderately slow
Available water capacity: About 9 inches
Present flooding: None
Water table: Present
Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3c-2
Nonirrigated land capability: 4c-2
Ecological site: R021XE044CA--Cool loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Dotta gravelly loam and similar soils

Composition: 0 to 6 percent
Slope: 0 to 2 percent
Landform: Stream terraces
Typical vegetation: Bluegrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, needlegrass
Ecological site: R021XE044CA--Cool loam 12-16

Ladd sandy loam and similar soils

Composition: 0 to 6 percent

Slope: 5 to 9 percent
 Landform: Fan remnants
 Typical vegetation: Mountain big sagebrush, needlegrass,
 Idaho fescue, antelope bitterbrush, bluegrass
 Ecological site: R021XE044CA--Cool loam 12-16

Bieber sandy loam and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Fan remnants
 Typical vegetation: Low sagebrush, bastardsage,
 Sandberg bluegrass, bottlebrush squirreltail
 Ecological site: R021XE184CA

Management

Major uses: Livestock grazing, irrigated crops, alfalfa hay
 For information about managing this map unit, see the
 following sections and associated tables in Part II of
 this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

263--Ladd-Bieber complex, 0 to 2 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Fan piedmont
 Elevation: 4,880 to 4,920
 Precipitation: 12 to 16 inches
 Air temperature: 47 to 49 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Ladd sandy loam, 0 to 2 percent slopes--70 percent
 Bieber sandy loam, 0 to 2 percent slopes--20 percent
 Bieber cobbly loam, 2 to 9 percent slopes--7 percent
 Fordney loamy sand, 0 to 9 percent slopes--3 percent

Component Description

Ladd sandy loam and similar soils

Landform: Fan remnants
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from granite
 Typical vegetation: Needlegrass, antelope bitterbrush,
 Idaho fescue, mountain big sagebrush, bluegrass

Typical profile:

Layer 1--0 to 8 inches; sandy loam
 Layer 2--8 to 39 inches; sandy clay loam
 Layer 3--39 to 72 inches; sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Permeability class (root zone): Moderately slow
 Available water capacity: About 9 inches
 Present flooding: None
 Water table: Present
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3c-2
 Nonirrigated land capability: 3c-2
 Ecological site: R021XE044CA--Cool loam 12-16

Component Description

Bieber sandy loam and similar soils

Landform: Fan remnants
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from volcanic rock
 Typical vegetation: Bastardsage, low sagebrush,
 bottlebrush squirreltail, Sandberg bluegrass

Typical profile:

Layer 1--0 to 6 inches; sandy loam
 Layer 2--6 to 11 inches; clay loam
 Layer 3--11 to 18 inches; clay
 Layer 4--18 to 60 inches; indurated

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Duripan: 12 to 20 inches
 Permeability class (root zone): Very slow
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Moderately well drained

Interpretive Groups

Irrigated land capability: 4s-8
 Nonirrigated land capability: 6s
 Ecological site: R021XE184CA--Shallow loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Bieber cobbly loam and similar soils

Composition: 0 to 7 percent
 Slope: 2 to 9 percent
 Landform: Fan remnants

Typical vegetation: Sandberg bluegrass, low sagebrush, bastardsage, bottlebrush squirreltail
Ecological site: R021XE184CA

Fordney loamy sand and similar soils

Composition: 0 to 3 percent
Slope: 0 to 9 percent
Landform: Fan remnants
Typical vegetation: Needleandthread, antelope bitterbrush, Idaho fescue, beardless wildrye, mountain big sagebrush
Ecological site: R021XE180CA--Sandy loam fan 12-16

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" section
"Soil Properties" section

264--Lakeview loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Alluvial plain
Elevation: 5,000 to 5,500
Precipitation: 12 to 16 inches
Air temperature: 45 to 48 degrees Fahrenheit
Frost-free period: 60 to 80 days

Composition

Lakeview loam, 0 to 2 percent slopes--85 percent
Keddie loam, 0 to 1 percent slopes--5 percent
Madeline very stony loam, 5 to 9 percent slopes--5 percent
Incy fine sand, 0 to 2 percent slopes--5 percent

Component Description

Lakeview loam and similar soils

Landform: Flood plains
Slope: 0 to 2 percent
Parent material: Alluvium derived from volcanic rock

Typical profile:

Layer 1--0 to 18 inches; loam
Layer 2--18 to 60 inches; clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
Permeability class (root zone): Moderately slow
Available water capacity: About 10 inches
Present flooding: Occasional
Water table: Present
Natural drainage class: Moderately well drained

Interpretive Groups

Irrigated land capability: 4c-2
Nonirrigated land capability: 4c-2
Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Keddie loam and similar soils

Composition: 0 to 5 percent
Slope: 0 to 1 percent
Landform: Alluvial fans
Ecological site: None assigned

Madeline very stony loam and similar soils

Composition: 0 to 5 percent
Slope: 5 to 9 percent
Landform: Toeslopes of mountains
Typical vegetation: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush, Thurber needlegrass
Ecological site: R021XE179CA--Warm stony loam 12-16

Incy fine sand and similar soils

Composition: 0 to 5 percent
Slope: 0 to 2 percent
Landform: Dunes
Typical vegetation: Sand dropseed, antelope bitterbrush, arrowleaf balsamroot, needleandthread, Wyoming big sagebrush, western wheatgrass, Indian ricegrass
Ecological site: R026XF022CA--Granitic sand 9-12

Management

Major uses: Livestock grazing, irrigated hay and pasture
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" section
"Soil Properties" section

265--Lakeview loam, warm, 0 to 2 percent slopes***Map Unit Setting***

MLRA: 23
 Landscape: Alluvial plain
 Elevation: 4,100 to 4,200
 Precipitation: 12 to 16 inches
 Air temperature: 48 to 50 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Lakeview loam, 0 to 2 percent slopes--85 percent
 Incy fine sand, 0 to 2 percent slopes--5 percent
 Massack loam, 0 to 1 percent slopes--5 percent
 Madeline very stony loam, 5 to 9 percent slopes--5 percent

Component Description**Lakeview loam and similar soils**

Landform: Flood plains
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from volcanic rock

Typical profile:

Layer 1--0 to 18 inches; loam
 Layer 2--18 to 60 inches; clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Permeability class (root zone): Moderately slow
 Available water capacity: About 10 inches
 Present flooding: Occasional
 Water table: Present
 Natural drainage class: Moderately well drained

Interpretive Groups

Irrigated land capability: 2w-2
 Nonirrigated land capability: 4w-2
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Incy fine sand and similar soils**

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Dunes
 Typical vegetation: Needleandthread, sand dropseed, antelope bitterbrush, Indian ricegrass, arrowleaf

balsamroot, Wyoming big sagebrush, western wheatgrass
 Ecological site: R026XF022CA--Granitic sand 9-12

Massack loam and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 1 percent
 Landform: Flood plains
 Ecological site: None assigned

Madeline very stony loam and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 9 percent
 Landform: Toeslopes of mountains
 Typical vegetation: Antelope bitterbrush, mountain big sagebrush, bluebunch wheatgrass, Thurber needlegrass
 Ecological site: R021XE179CA--Warm stony loam 12-16

Management

Major uses: Livestock grazing, irrigated hay and pasture, urban development
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

266--Lasco gravelly sandy loam, 2 to 15 percent slopes***Map Unit Setting***

MLRA: 22
 Landscape: Mountains
 Elevation: 5,000 to 5,200
 Precipitation: 25 to 30 inches
 Air temperature: 45 to 47 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Lasco gravelly sandy loam, 2 to 15 percent slopes--90 percent
 Lasco gravelly sandy loam, 2 to 15 percent slopes, extremely stony--5 percent
 Scaribou very gravelly loam, 5 to 15 percent slopes--5 percent

Component Description**Lasco gravelly sandy loam and similar soils**

Landform: Mountains
 Slope: 2 to 15 percent

Parent material: Colluvium derived from granite and residuum weathered from granite

Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--antelope bitterbrush, Idaho fescue, big sagebrush

Site index: Jeffrey pine--85 at an age base of 100 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 58

Typical profile:

Layer 1--0 to 9 inches; gravelly sandy loam

Layer 2--9 to 49 inches; gravelly sandy loam

Layer 3--49 to 59 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 2 inches thick

Runoff: Low

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 4e-4

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Lasco and similar soils

Composition: 0 to 5 percent

Slope: 2 to 15 percent

Landform: Mountains

Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--antelope bitterbrush, big sagebrush, Idaho fescue

Ecological site: None assigned

Scaribou very gravelly loam and similar soils

Composition: 0 to 5 percent

Slope: 5 to 15 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--needlegrass, snowbrush ceanothus, manzanita, mountain brome, whitethorn ceanothus

Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing, urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Forest land" section

"Engineering" section

"Soil Properties" section

267--Lasco gravelly sandy loam, 30 to 50 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains

Elevation: 5,300 to 6,000

Precipitation: 30 to 35 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Lasco gravelly sandy loam, 30 to 50 percent slopes--95 percent

Bonta gravelly sandy loam, 30 to 50 percent slopes--5 percent

Component Description

Lasco gravelly sandy loam and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent

Parent material: Colluvium derived from granite and residuum weathered from granite

Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--whitethorn ceanothus, manzanita, snowbrush ceanothus, needlegrass, mountain brome

Site index: Jeffrey pine--85 at an age base of 100 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 58

Typical profile:

Layer 1--0 to 9 inches; gravelly sandy loam

Layer 2--9 to 49 inches; gravelly sandy loam

Layer 3--49 to 59 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 2 inches thick

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Bonta gravelly sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, ponderosa pine, white fir; Forest understory--mountain big sagebrush, mountain brome, whitethorn ceanothus, antelope bitterbrush, needlegrass, snowbrush ceanothus

Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Forest land" section

"Engineering" section

"Soil Properties" section

268--Lasco gravelly loam, 15 to 30 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains

Elevation: 5,200 to 5,800

Precipitation: 30 to 35 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Lasco gravelly loam, 15 to 30 percent slopes--90 percent

Waterman gravelly loamy coarse sand, 15 to 30 percent slopes--5 percent

Dotta gravelly loam, 5 to 9 percent slopes--5 percent

Component Description

Lasco gravelly loam and similar soils

Landform: Mountains

Slope: 15 to 30 percent

Parent material: Colluvium derived from granite and residuum weathered from granite

Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--mountain brome, whitethorn ceanothus, manzanita, snowbrush ceanothus, needlegrass

Site index: Jeffrey pine--85 at an age base of 100 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 58

Typical profile:

Layer 1--0 to 9 inches; gravelly loam

Layer 2--9 to 49 inches; gravelly sandy loam

Layer 3--49 to 59 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 2 inches thick

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 5 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 4e-4

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Waterman and similar soils

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Ridges

Typical vegetation: Forest canopy--Jeffrey pine, Forest understory--squawcarpet, Idaho fescue, antelope bitterbrush, bottlebrush squirreltail, Columbia needlegrass, mountain big sagebrush

Ecological site: None assigned

Dotta gravelly loam and similar soils

Composition: 0 to 5 percent

Slope: 5 to 9 percent

Landform: Stream terraces

Typical vegetation: Idaho fescue, antelope bitterbrush, bluegrass, mountain big sagebrush, needlegrass

Ecological site: R021XE044CA--Cool loam 12-16

Management

Major uses: Timber production, livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

269--Lasco-Bonta complex, 15 to 30 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains

Elevation: 4,300 to 4,900

Precipitation: 25 to 30 inches

Air temperature: 45 to 47 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Lasco sandy loam, 15 to 30 percent slopes--65 percent

Bonta coarse sandy loam, 15 to 30 percent slopes--25 percent

Chirpchatter sandy loam, 5 to 9 percent slopes--4 percent

Chimney gravelly loamy coarse sand, 15 to 30 percent slopes--3 percent

Cagwin loamy coarse sand, 15 to 30 percent slopes--3 percent

Component Description

Lasco sandy loam and similar soils

Landform: Toeslopes of mountains

Slope: 15 to 30 percent

Parent material: Colluvium derived from granite and residuum weathered from granite

Typical vegetation: Forest canopy--California black oak, Jeffrey pine, incense cedar, ponderosa pine; Forest understory--whitethorn ceanothus, needlegrass, manzanita, snowbrush ceanothus, mountain brome

Site index: Ponderosa pine--88 at an age base of 100 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 60

Typical profile:

Layer 1--0 to 9 inches; sandy loam

Layer 2--9 to 49 inches; sandy loam

Layer 3--49 to 59 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 2 inches thick

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 5 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 4e-4

Ecological site: None assigned

Component Description

Bonta coarse sandy loam and similar soils

Landform: Toeslopes of mountains

Slope: 15 to 30 percent

Parent material: Colluvium derived from granite and residuum weathered from granite

Typical vegetation: Forest canopy--California black oak, Douglas fir, Jeffrey pine, white fir; Forest understory--antelope bitterbrush, other perennial grasses, big sagebrush

Site index: Jeffrey pine--64 at an age base of 100 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 43

Typical profile:

Layer 1--0 to 12 inches; coarse sandy loam

Layer 2--12 to 36 inches; coarse sandy loam

Layer 3--36 to 40 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 4e-4

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Chirpchatter sandy loam and similar soils**

Composition: 0 to 4 percent

Slope: 5 to 9 percent

Landform: Fan remnants

Typical vegetation: Forest canopy--California black oak, Jeffrey pine, ponderosa pine; Forest understory--whitethorn ceanothus, greenleaf manzanita, needlegrass, other perennial grasses

Ecological site: None assigned

Chimney gravelly loamy coarse sand and similar soils

Composition: 0 to 3 percent

Slope: 15 to 30 percent

Landform: Toeslopes of mountains

Typical vegetation: Forest canopy--California black oak, Jeffrey pine; Forest understory--squawcarpet, Idaho fescue, antelope bitterbrush, bottlebrush squirreltail, Columbia needlegrass, mountain big sagebrush

Ecological site: None assigned

Cagwin and similar soils

Composition: 0 to 3 percent

Slope: 15 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--pinemat manzanita, greenleaf manzanita, whitethorn ceanothus

Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Forest land" section

"Engineering" section

"Soil Properties" section

270--Lieberman fine sandy loam, 0 to 2 percent slopes***Map Unit Setting***

MLRA: 23

Landscape: Lake plain

Elevation: 4,000 to 4,010

Precipitation: 6 to 9 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Lieberman fine sandy loam, 0 to 2 percent slopes--85 percent

Playas silty clay, 0 to 1 percent slopes--5 percent

Mazuma loamy fine sand, 0 to 2 percent slopes--5 percent

Ardep fine sandy loam, 0 to 2 percent slopes--5 percent

Component Description**Lieberman fine sandy loam and similar soils**

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Lacustrine deposits

Typical vegetation: Bud sagebrush, shadscale, black greasewood, bottlebrush squirreltail

Typical profile:

Layer 1--0 to 12 inches; fine sandy loam

Layer 2--12 to 20 inches; clay loam

Layer 3--20 to 60 inches; stratified sand to fine sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium

Permeability class (root zone): Moderately slow

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XG046CA--Sodic flat 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Playas silty clay**

Composition: 0 to 5 percent

Slope: 0 to 1 percent

Landform: Playas

Ecological site: None assigned

Mazuma loamy fine sand and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Shadscale, basin wildrye, black greasewood, seepweed, bottlebrush squirreltail

Ecological site: R023XG047CA--Sodic terrace 6-9

Ardep fine sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Bud sagebrush, shadscale, black greasewood, bottlebrush squirreltail

Ecological site: R023XG046CA--Sodic flat 6-9

Management

Major uses: Livestock grazing, urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

271--Lieberman-Herlong complex, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Lake plain

Elevation: 4,000 to 4,050

Precipitation: 6 to 9 inches

Air temperature: 49 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Lieberman fine sandy loam, 0 to 2 percent slopes--50 percent

Herlong fine sandy loam, 0 to 2 percent slopes--35 percent

Calneva silt loam, 0 to 1 percent slopes--8 percent

Ragtown loam, 0 to 2 percent slopes--7 percent

Component Description

Lieberman fine sandy loam and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Lacustrine deposits

Typical vegetation: Black greasewood, bottlebrush squirreltail, shadscale, bud sagebrush

Typical profile:

Layer 1--0 to 12 inches; fine sandy loam

Layer 2--12 to 20 inches; clay loam

Layer 3--20 to 60 inches; stratified sand to fine sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium

Permeability class (root zone): Moderately slow

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XG046CA--Sodic flat 6-9

Component Description

Herlong fine sandy loam and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Alluvium derived from mixed rocks and lacustrine deposits

Typical vegetation: Bud sagebrush, shadscale, black greasewood, bottlebrush squirreltail

Typical profile:

Layer 1--0 to 3 inches; fine sandy loam

Layer 2--3 to 9 inches; loam

Layer 3--9 to 12 inches; unweathered bedrock

Layer 4--12 to 68 inches; stratified gravelly sand to very gravelly sandy loam

Layer 5--68 to 72 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 9 to 14 inches

Permeability class (root zone): Moderately rapid

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 1.2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XG046CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Calneva silt loam and similar soils

Composition: 0 to 8 percent

Slope: 0 to 1 percent

Landform: Basin floors

Typical vegetation: Bud sagebrush, shadscale, black greasewood, bottlebrush squirreltail
 Ecological site: R023XG046CA--Sodic flat 6-9

Ragtown loam and similar soils

Composition: 0 to 7 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Shadscale, basin wildrye, spiny hopsage, black greasewood, bottlebrush squirreltail
 Ecological site: R023XG047CA--Sodic terrace 6-9

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

272--Lodico very cobbly silt loam, 2 to 9 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Plateaus
 Elevation: 4,800 to 5,200
 Precipitation: 9 to 12 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Lodico very cobbly silt loam, 2 to 9 percent slopes--85 percent
 Brubeck very cobbly clay, 2 to 9 percent slopes--5 percent
 Devada very stony loam, 2 to 9 percent slopes--5 percent
 Rubble land, 5 to 9 percent slopes--3 percent
 Saddlerock silty clay, 0 to 2 percent slopes--2 percent

Component Description

Lodico very cobbly silt loam and similar soils

Landform: Plateaus
 Slope: 2 to 9 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Low sagebrush, Thurber needlegrass, bluebunch wheatgrass, antelope bitterbrush

Typical profile:

Surface rock fragments: About 30 percent cobbles, 2 percent stones
 Layer 1--0 to 3 inches; very cobbly silt loam
 Layer 2--3 to 23 inches; clay

Layer 3--23 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Very slow
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF081CA--Shallow stony loam 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Brubeck very cobbly clay and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 9 percent
 Landform: Plateaus
 Typical vegetation: Western wheatgrass, big sagebrush, rubber rabbitbrush, beardless wildrye, bottlebrush squirreltail, Thurber needlegrass, littleleaf horsebrush
 Ecological site: R023XF084CA--Clay upland 9-16

Devada very stony loam and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 9 percent, south aspect
 Landform: Backslopes of mountains, ridges
 Typical vegetation: Thurber needlegrass, low sagebrush, bluegrass, bluebunch wheatgrass
 Ecological site: R023XF081CA

Rubble land

Composition: 0 to 3 percent
 Slope: 5 to 9 percent
 Landform: Plateaus
 Ecological site: None assigned

Saddlerock silty clay, drained and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 2 percent
 Landform: Stream terraces
 Typical vegetation: Basin wildrye, basin big sagebrush
 Ecological site: R023XF088CA

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

273--Longcreek-Devada-Rubble land complex, 9 to 30 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 4,500 to 5,610
 Precipitation: 10 to 12 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Longcreek very cobbly loam, 9 to 30 percent slopes--35 percent
 Devada very cobbly loam, 9 to 30 percent slopes--30 percent
 Rubble land fragmental material, 15 to 30 percent slopes--20 percent
 Rock outcrop, 15 to 30 percent slopes--3 percent
 Shinnpeak very cobbly loam, 9 to 15 percent slopes--3 percent
 Horsecamp cobbly silty clay, 5 to 9 percent slopes--3 percent
 Cleghorn sandy loam, 2 to 5 percent slopes--3 percent
 Brubeck very cobbly clay, 9 to 30 percent slopes--3 percent

Component Description

Longcreek very cobbly loam and similar soils

Landform: Plateaus
 Slope: 9 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush, basin wildrye, Thurber needlegrass

Typical profile:

Surface rock fragments: About 25 percent cobbles, 5 percent stones
 Layer 1--0 to 3 inches; very cobbly loam
 Layer 2--3 to 7 inches; very cobbly clay loam
 Layer 3--7 to 18 inches; very cobbly clay
 Layer 4--18 to 28 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
 Permeability class (root zone): Slow
 Available water capacity: About 1.5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF082CA

Component Description

Devada very cobbly loam and similar soils

Landform: Plateaus
 Slope: 9 to 30 percent
 Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite
 Typical vegetation: Low sagebrush, bluegrass, bluebunch wheatgrass, Thurber needlegrass

Typical profile:

Surface rock fragments: About 30 percent cobbles, 5 percent stones
 Layer 1--0 to 4 inches; very cobbly loam
 Layer 2--4 to 13 inches; gravelly clay
 Layer 3--13 to 23 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF081CA--Shallow stony loam 9-12

Component Description

Rubble land

Landform: Plateaus
 Slope: 15 to 30 percent

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 3 percent

Slope: 15 to 30 percent

Landform: Plateaus

Ecological site: None assigned

Shinnpeak very cobbly loam and similar soils

Composition: 0 to 3 percent

Slope: 9 to 15 percent

Landform: Fan remnants

Typical vegetation: Bluebunch wheatgrass, black sagebrush, other perennial forbs, Sandberg bluegrass, other perennial grasses, bottlebrush squirreltail, other shrubs, Thurber needlegrass

Ecological site: R023XF087CA--Very shallow stony loam 9-12

Horsecamp cobbly silty clay and similar soils

Composition: 0 to 3 percent

Slope: 5 to 9 percent

Landform: Plateaus

Typical vegetation: Western wheatgrass, big sagebrush, rubber rabbitbrush, beardless wildrye, bottlebrush squirreltail, Thurber needlegrass, littleleaf horsebrush

Ecological site: R023XF084CA

Cleghorn sandy loam and similar soils

Composition: 0 to 3 percent

Slope: 2 to 5 percent

Landform: Fan remnants

Typical vegetation: Needleandthread, Thurber needlegrass, basin wildrye, Wyoming big sagebrush

Ecological site: R023XF091CA

Brubeck very cobbly clay and similar soils

Composition: 0 to 3 percent

Slope: 9 to 30 percent

Landform: Plateaus

Typical vegetation: Beardless wildrye, western wheatgrass, big sagebrush, rubber rabbitbrush, bottlebrush squirreltail, Thurber needlegrass, littleleaf horsebrush

Ecological site: R023XF084CA--Clay upland 9-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

274--Longcreek-Devada-Rubble land complex, 30 to 50 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Mountains

Elevation: 4,500 to 6,000

Precipitation: 9 to 12 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Longcreek very cobbly loam, 30 to 50 percent slopes--35 percent

Devada very cobbly loam, 30 to 50 percent slopes--30 percent

Rubble land fragmental material, 30 to 50 percent slopes--20 percent

Shinnpeak very cobbly loam, 9 to 15 percent slopes--4 percent

Horsecamp cobbly silty clay, 5 to 9 percent slopes--4 percent

Brubeck very cobbly clay, 15 to 30 percent slopes--4 percent

Cleghorn sandy loam, 9 to 15 percent slopes--3 percent

Component Description

Longcreek very cobbly loam and similar soils

Landform: Mountains

Slope: 30 to 50 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Thurber needlegrass, basin wildrye, mountain big sagebrush, bluebunch wheatgrass, antelope bitterbrush

Typical profile:

Surface rock fragments: About 25 percent cobbles, 5 percent stones

Layer 1--0 to 3 inches; very cobbly loam

Layer 2--3 to 7 inches; very cobbly clay loam

Layer 3--7 to 18 inches; very cobbly clay

Layer 4--18 to 28 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
 Permeability class (root zone): Slow
 Available water capacity: About 1.5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XF082CA--Stony loam 9-12

Component Description

Devada very cobbly loam and similar soils

Landform: Mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite
 Typical vegetation: Low sagebrush, bluegrass, Thurber needlegrass, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 30 percent cobbles, 5 percent stones
 Layer 1--0 to 4 inches; very cobbly loam
 Layer 2--4 to 13 inches; gravelly clay
 Layer 3--13 to 23 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XF081CA

Component Description

Rubble land

Landform: Mountains
 Slope: 30 to 50 percent

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Shinnpeak very cobbly loam and similar soils

Composition: 0 to 4 percent
 Slope: 9 to 15 percent
 Landform: Fan remnants
 Typical vegetation: Other shrubs, bluebunch wheatgrass, black sagebrush, Thurber needlegrass, bottlebrush squirreltail, Sandberg bluegrass, other perennial grasses, other perennial forbs
 Ecological site: R023XF087CA--Very shallow stony loam 9-12

Horsecamp cobbly silty clay and similar soils

Composition: 0 to 4 percent
 Slope: 5 to 9 percent
 Landform: Plateaus
 Typical vegetation: Big sagebrush, littleleaf horsebrush, western wheatgrass, rubber rabbitbrush, beardless wildrye, bottlebrush squirreltail, Thurber needlegrass
 Ecological site: R023XF084CA--Clay upland 9-16

Brubeck very cobbly clay and similar soils

Composition: 0 to 4 percent
 Slope: 15 to 30 percent
 Landform: Plateaus
 Typical vegetation: Littleleaf horsebrush, Thurber needlegrass, bottlebrush squirreltail, beardless wildrye, rubber rabbitbrush, big sagebrush, western wheatgrass
 Ecological site: R023XF084CA--Clay upland 9-16

Cleghorn sandy loam and similar soils

Composition: 0 to 3 percent
 Slope: 9 to 15 percent
 Landform: Fan remnants
 Typical vegetation: Basin wildrye, needleandthread, Wyoming big sagebrush, Thurber needlegrass
 Ecological site: R023XF091CA--Loamy upland 9-12

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section

"Soil Properties" section

275--Loomis very cobbly loam, 5 to 30 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Plateau
Elevation: 4,500 to 5,800
Precipitation: 9 to 12 inches
Air temperature: 46 to 48 degrees Fahrenheit
Frost-free period: 80 to 100 days

Composition

Loomis very cobbly loam, 5 to 30 percent slopes--85 percent
Rock outcrop, 15 to 30 percent slopes--5 percent
Bucklake very stony loam, 15 to 30 percent slopes--5 percent
Brubeck very cobbly clay, 5 to 30 percent slopes--5 percent

Component Description

Loomis very cobbly loam and similar soils

Landform: Plateaus
Slope: 5 to 30 percent
Parent material: Colluvium derived from basalt over residuum weathered from basalt
Typical vegetation: Thurber needlegrass, bottlebrush squirreltail, Sandberg bluegrass, black sagebrush, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 25 percent cobbles, 10 percent stones
Layer 1--0 to 2 inches; very cobbly loam
Layer 2--2 to 6 inches; very gravelly clay loam
Layer 3--6 to 11 inches; very gravelly clay
Layer 4--11 to 15 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Bedrock (lithic): 8 to 14 inches
Permeability class (root zone): Slow
Available water capacity: About 1.1 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XF087CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 5 percent
Slope: 15 to 30 percent
Landform: Plateaus
Ecological site: None assigned

Bucklake very stony loam and similar soils

Composition: 0 to 5 percent
Slope: 15 to 30 percent
Landform: Backslopes of mountains
Typical vegetation: Thurber needlegrass, basin wildrye, rabbitbrush, mountain big sagebrush, bluebunch wheatgrass, antelope bitterbrush
Ecological site: R023XF082CA--Stony loam 9-12

Brubeck very cobbly clay and similar soils

Composition: 0 to 5 percent
Slope: 5 to 30 percent
Landform: Plateaus
Typical vegetation: Littleleaf horsebrush, Thurber needlegrass, rubber rabbitbrush, big sagebrush, western wheatgrass, beardless wildrye, bottlebrush squirreltail
Ecological site: R023XF084CA

Management

Major uses: Livestock grazing
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Engineering" section
"Soil Properties" section

276--Loomis-Fivesprings association, 5 to 30 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Mountains
Elevation: 4,500 to 5,800
Precipitation: 9 to 12 inches
Air temperature: 46 to 48 degrees Fahrenheit
Frost-free period: 80 to 100 days

Composition

Loomis very cobbly loam, 5 to 9 percent slopes--55 percent
Fivesprings very cobbly loam, 9 to 30 percent slopes--30 percent

Longcreek very cobbly loam, 5 to 30 percent slopes--4 percent
 Rock outcrop, 15 to 30 percent slopes--3 percent
 Tunnison very cobbly clay, 5 to 9 percent slopes--3 percent
 Indiano stony fine sandy loam, 5 to 15 percent slopes--3 percent
 Devada very cobbly loam, 5 to 15 percent slopes--2 percent

Component Description

Loomis very cobbly loam and similar soils

Landform: Backslopes of mountains, ridges
 Slope: 5 to 9 percent
 Parent material: Colluvium derived from basalt over residuum weathered from basalt
 Typical vegetation: Sandberg bluegrass, black sagebrush, bluebunch wheatgrass, bottlebrush squirreltail, Thurber needlegrass

Typical profile:

Surface rock fragments: About 35 percent cobbles, 10 percent stones
 Layer 1--0 to 2 inches; very cobbly loam
 Layer 2--2 to 6 inches; very gravelly clay loam
 Layer 3--6 to 11 inches; very gravelly clay
 Layer 4--11 to 15 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 8 to 14 inches
 Permeability class (root zone): Slow
 Available water capacity: About 1.1 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF087CA--Very shallow stony loam 9-12

Component Description

Fivesprings very cobbly loam and similar soils

Landform: Backslopes of mountains, toeslopes of mountains
 Slope: 9 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, basin wildrye, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 20 percent cobbles, 5 percent stones
 Layer 1--0 to 3 inches; very cobbly loam
 Layer 2--3 to 8 inches; very gravelly clay loam
 Layer 3--8 to 23 inches; very gravelly clay
 Layer 4--23 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF082CA--Stony loam 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Longcreek very cobbly loam and similar soils

Composition: 0 to 4 percent
 Slope: 5 to 30 percent
 Landform: Mountains
 Typical vegetation: Thurber needlegrass, antelope bitterbrush, basin wildrye, mountain big sagebrush, bluebunch wheatgrass
 Ecological site: R023XF082CA--Stony loam 9-12

Rock outcrop

Composition: 0 to 3 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Ecological site: None assigned

Tunnison very cobbly clay and similar soils

Composition: 0 to 3 percent
 Slope: 5 to 9 percent
 Landform: Plateaus
 Typical vegetation: Beardless wildrye, bottlebrush squirreltail, Thurber needlegrass, littleleaf horsebrush, big sagebrush, western wheatgrass, rubber rabbitbrush
 Ecological site: R023XF093CA--Shallow clay 9-16

Indiano stony fine sandy loam and similar soils

Composition: 0 to 3 percent

Slope: 5 to 15 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Thurber needlegrass, basin wildrye, bluebunch wheatgrass, Wyoming big sagebrush, other perennial forbs, other perennial grasses, antelope bitterbrush, other shrubs
 Ecological site: R023XF082CA--Stony loam 9-12

Devada very cobbly loam and similar soils

Composition: 0 to 2 percent
 Slope: 5 to 15 percent
 Landform: Mountains
 Typical vegetation: Low sagebrush, bluebunch wheatgrass, Thurber needlegrass, bluegrass
 Ecological site: R023XF081CA--Shallow stony loam 9-12

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

277--Loomis-Rubble land association, 5 to 30 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Plateaus
 Elevation: 4,500 to 5,000
 Precipitation: 9 to 12 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Loomis very cobbly loam, 5 to 30 percent slopes--65 percent
 Rubble land fragmental material, 15 to 30 percent slopes--20 percent
 Rock outcrop, 15 to 30 percent slopes--5 percent
 Corral very cobbly loam, 15 to 30 percent slopes--5 percent
 Bucklake very stony loam, 15 to 30 percent slopes--5 percent

Component Description

Loomis very cobbly loam and similar soils

Landform: Plateaus
 Slope: 5 to 30 percent
 Parent material: Colluvium derived from basalt over residuum weathered from basalt

Typical vegetation: Bluebunch wheatgrass, black sagebrush, Sandberg bluegrass, bottlebrush squirreltail, Thurber needlegrass

Typical profile:

Surface rock fragments: About 25 percent cobbles, 10 percent stones
 Layer 1--0 to 2 inches; very cobbly loam
 Layer 2--2 to 6 inches; very gravelly clay loam
 Layer 3--6 to 11 inches; very gravelly clay
 Layer 4--11 to 15 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 8 to 14 inches
 Permeability class (root zone): Slow
 Available water capacity: About 1.1 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF087CA--Very shallow stony loam 9-12

Component Description

Rubble land

Landform: Plateaus
 Slope: 15 to 30 percent

Component Properties and Qualities

Runoff: Low
 Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Plateaus
 Ecological site: None assigned

Corral very cobbly loam and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Rock pediments

Typical vegetation: Big sagebrush, bluebunch wheatgrass,
Thurber needlegrass, basin wildrye
Ecological site: R023XF082CA--Stony loam 9-12

Bucklake very stony loam and similar soils

Composition: 0 to 5 percent
Slope: 15 to 30 percent
Landform: Backslopes of mountains
Typical vegetation: Thurber needlegrass, antelope
bitterbrush, basin wildrye, rabbitbrush, mountain big
sagebrush, bluebunch wheatgrass
Ecological site: R023XF082CA--Stony loam 9-12

Management

Major uses: Livestock grazing
For information about managing this map unit, see the
following sections and associated tables in Part II of
this publication:
"Range" section
"Engineering" section
"Soil Properties" section

278--Madeline-Glean-Devada association, 9 to 50 percent slopes

Map Unit Setting

MLRA: 21
Landscape: Mountains
Elevation: 5,000 to 6,500
Precipitation: 10 to 16 inches
Air temperature: 44 to 46 degrees Fahrenheit
Frost-free period: 60 to 80 days

Composition

Madeline very stony loam, 15 to 30 percent slopes--35 percent
Glean very stony loam, 30 to 50 percent slopes--30 percent
Devada very cobbly loam, 9 to 30 percent slopes--20 percent
Rubble land, 30 to 50 percent slopes--5 percent
Rock outcrop, 15 to 30 percent slopes--5 percent
Sumine very stony loam, 30 to 50 percent slopes--5 percent

Component Description

Madeline very stony loam and similar soils

Landform: Toeslopes of mountains
Slope: 15 to 30 percent
Parent material: Colluvium derived from volcanic rock and
residuum weathered from volcanic rock
Typical vegetation: Bluebunch wheatgrass, mountain big
sagebrush, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 20 percent cobbles, 20 percent stones
Layer 1--0 to 5 inches; very stony loam
Layer 2--5 to 9 inches; gravelly clay loam
Layer 3--9 to 16 inches; gravelly clay
Layer 4--16 to 20 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
Permeability class (root zone): Slow
Available water capacity: About 2 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R021XE179CA--Warm stony loam 12-16

Component Description

Glean very stony loam and similar soils

Landform: Backslopes of mountains
Slope: 30 to 50 percent, north aspect
Parent material: Colluvium derived from volcanic rock
Typical vegetation: Bluebunch wheatgrass, mountain big
sagebrush, Idaho fescue, antelope bitterbrush,
needlegrass

Typical profile:

Surface rock fragments: About 20 percent cobbles, 20 percent stones
Layer 1--0 to 3 inches; very stony loam
Layer 2--3 to 44 inches; very gravelly loam
Layer 3--44 to 48 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches
Permeability class (root zone): Moderately rapid
Available water capacity: About 4 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R021XE174CA--Stony loam 12-16

Component Description

Devada very cobbly loam and similar soils

Landform: Toeslopes of mountains

Slope: 9 to 30 percent

Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite

Typical vegetation: Bluebunch wheatgrass, low sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 15 percent cobbles, 20 percent stones

Layer 1--0 to 7 inches; very cobbly loam

Layer 2--7 to 15 inches; gravelly clay

Layer 3--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rubble land

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Ecological site: None assigned

Rock outcrop

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Shoulders of mountains

Ecological site: None assigned

Sumine very stony loam and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent, south aspect

Landform: Backslopes of mountains

Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, basin wildrye, Idaho fescue, antelope bitterbrush, Thurber needlegrass

Ecological site: R021XE179CA--Warm stony loam 12-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

279--Madeline-Sumine association, 9 to 30 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 5,600 to 6,000

Precipitation: 12 to 14 inches

Air temperature: 41 to 45 degrees Fahrenheit

Frost-free period: 70 to 80 days

Composition

Madeline very stony loam, 9 to 30 percent slopes--45 percent

Sumine cobbly loam, 9 to 30 percent slopes--40 percent

Jauriga gravelly loam, 9 to 15 percent slopes--5 percent

Orhood very stony loam, 9 to 30 percent slopes--5 percent

Brubeck very cobbly clay, 15 to 30 percent slopes--5 percent

Component Description

Madeline very stony loam and similar soils

Landform: Backslopes of mountains

Slope: 9 to 30 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 20 percent cobbles, 20 percent stones

Layer 1--0 to 5 inches; very stony loam

Layer 2--5 to 9 inches; gravelly clay loam

Layer 3--9 to 16 inches; gravelly clay

Layer 4--16 to 20 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE174CA--Stony loam 12-16

Component Description**Sumine cobbly loam and similar soils**

Landform: Backslopes of mountains

Slope: 9 to 30 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, mountain brome, basin wildrye, Idaho fescue, oceanspray, Thurber needlegrass

Typical profile:

Surface rock fragments: About 10 percent cobbles

Layer 1--0 to 5 inches; cobbly loam

Layer 2--5 to 11 inches; very gravelly loam

Layer 3--11 to 24 inches; very cobbly clay loam

Layer 4--24 to 28 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE176CA--Loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Jauriga gravelly loam and similar soils**

Composition: 0 to 5 percent

Slope: 9 to 15 percent, south aspect

Landform: Backslopes of mountains

Typical vegetation: Antelope bitterbrush, mountain big sagebrush, bluebunch wheatgrass, Idaho fescue, needlegrass

Ecological site: R021XE176CA--Loam 12-16

Orhood very stony loam and similar soils

Composition: 0 to 5 percent

Slope: 9 to 30 percent

Landform: Ridges

Typical vegetation: Forest canopy--western juniper, Forest understory--rabbitbrush, Thurber needlegrass, mountain big sagebrush, arrowleaf balsamroot, bluebunch wheatgrass, Lemmon needlegrass, Sandberg bluegrass, Idaho fescue, antelope bitterbrush

Ecological site: R021XE174CA--Stony loam 12-16

Brubeck very cobbly clay and similar soils

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Plateaus

Typical vegetation: Littleleaf horsebrush, bottlebrush squirreltail, Thurber needlegrass, beardless wildrye, rubber rabbitbrush, big sagebrush, western wheatgrass

Ecological site: R023XF084CA--Clay upland 9-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

280--Massack loam, 0 to 2 percent slopes**Map Unit Setting**

MLRA: 21

Landscape: Alluvial plain

Elevation: 4,300 to 4,750

Precipitation: 16 to 20 inches

Air temperature: 49 to 51 degrees Fahrenheit

Frost-free period: 80 to 130 days

Composition

Massack loam, 0 to 2 percent slopes--95 percent

Keddie clay loam, 0 to 2 percent slopes--5 percent

Component Description**Massack loam and similar soils**

Landform: Flood plains

Slope: 0 to 2 percent
Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 33 inches; loam
Layer 2--33 to 60 inches; stratified loamy sand to very fine sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
Permeability class (root zone): Moderately rapid
Available water capacity: About 8 inches
Present flooding: Occasional
Present ponding: None
Water table: Present
Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 3w-2
Nonirrigated land capability: 4w-2
Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Keddie clay loam and similar soils

Composition: 0 to 5 percent
Slope: 0 to 2 percent
Landform: Flood plains
Ecological site: None assigned

Management

Major uses: Livestock grazing, irrigated hay and pasture
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" section
"Soil Properties" section

281--Mazuma loamy sand, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Lake plain
Elevation: 3,990 to 4,000
Precipitation: 6 to 9 inches
Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Mazuma loamy fine sand, 0 to 2 percent slopes--80 percent
Zorravista loamy sand, 0 to 2 percent slopes--10 percent
Honlak loam, 0 to 2 percent slopes--10 percent

Component Description

Mazuma loamy fine sand and similar soils

Landform: Lake terraces
Slope: 0 to 2 percent
Parent material: Alluvium derived from mixed rocks and lacustrine deposits
Typical vegetation: Inland saltgrass, black greasewood, bottlebrush squirreltail, seepweed

Typical profile:

Layer 1--0 to 5 inches; loamy fine sand
Layer 2--5 to 60 inches; stratified gravelly coarse sand to silt loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low
Permeability class (root zone): Moderately rapid
Sodicity: Sodic within 40 inches
Available water capacity: About 7 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2s-6
Nonirrigated land capability: 6s
Ecological site: R023XG050CA--Saline-sodic flat 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Zorravista loamy sand and similar soils

Composition: 0 to 10 percent
Slope: 0 to 2 percent
Landform: Dunes
Typical vegetation: Basin big sagebrush, basin wildrye, Indian ricegrass, black greasewood, needleandthread, littleleaf horsebrush
Ecological site: R023XG054CA--Sandy terrace 6-9

Honlak loam and similar soils

Composition: 0 to 10 percent
Slope: 0 to 2 percent
Landform: Fan remnants

Typical vegetation: Rush, black greasewood, alkali grass, beardless wildrye, western wheatgrass, inland saltgrass, bluegrass, basin wildrye
 Ecological site: R023XG058CA--Saline-sodic subirrigated 6-16

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

282--Mazuma fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Lake plain
 Elevation: 4,050 to 4,100
 Precipitation: 6 to 9 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Mazuma fine sandy loam, 0 to 2 percent slopes--85 percent
 Ardep fine sandy loam, 0 to 2 percent slopes--5 percent
 Zorravista sand, 0 to 2 percent slopes--5 percent
 Calneva silt loam, 0 to 1 percent slopes--5 percent

Component Description

Mazuma fine sandy loam and similar soils

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from mixed rocks and lacustrine deposits
 Typical vegetation: Black greasewood, bottlebrush squirreltail, seepweed, shadscale, basin wildrye

Typical profile:

Layer 1--0 to 7 inches; fine sandy loam
 Layer 2--7 to 30 inches; sandy loam
 Layer 3--30 to 60 inches; stratified gravelly coarse sand to silt loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low

Permeability class (root zone): Moderately rapid
 Salinity: Saline within 40 inches
 Sodicity: Sodic within 40 inches
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2s-6
 Nonirrigated land capability: 7s
 Ecological site: R023XG050CA--Saline-sodic flat 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Ardep fine sandy loam and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Bud sagebrush, shadscale, bottlebrush squirreltail, black greasewood
 Ecological site: R023XG046CA--Sodic flat 6-9

Zorravista sand and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Dunes
 Typical vegetation: Fourwing saltbush, needleandthread, basin big sagebrush, rubber rabbitbrush, basin wildrye, littleleaf horsebrush, black greasewood, Indian ricegrass, spiny hopsage
 Ecological site: R023XG049CA--Sand dunes 6-9

Calneva silt loam and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 1 percent
 Landform: Basin floors
 Typical vegetation: Shadscale, black greasewood, bottlebrush squirreltail, bud sagebrush
 Ecological site: R023XG046CA--Sodic flat 6-9

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

283--McConnel-Mottsville complex, 2 to 9 percent slopes***Map Unit Setting***

MLRA: 23

Landscape: Fan piedmont

Elevation: 4,000 to 4,400

Precipitation: 9 to 12 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

McConnel gravelly fine sandy loam, 2 to 9 percent slopes--60 percent

Mottsville gravelly loamy coarse sand, 2 to 9 percent slopes--25 percent

Devada very stony loam, 2 to 9 percent slopes--5 percent

McConnel gravelly fine sandy loam, 2 to 9 percent slopes, very stony--4 percent

Zorravista sand, 0 to 2 percent slopes--3 percent

Longcreek very cobbly loam, 5 to 9 percent slopes--3 percent

Component Description**McConnel gravelly fine sandy loam and similar soils**

Landform: Fan remnants

Slope: 2 to 9 percent

Parent material: Alluvium derived from mixed rocks and lacustrine deposits

Typical vegetation: Bluebunch wheatgrass, Wyoming big sagebrush, yellow rabbitbrush, spiny hopsage, Indian ricegrass, bottlebrush squirreltail, Thurber needlegrass

Typical profile:

Layer 1--0 to 10 inches; gravelly fine sandy loam

Layer 2--10 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low

Permeability class (root zone): Moderately rapid

Salinity: Saline within 40 inches

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Irrigated land capability: 3e-1

Nonirrigated land capability: 6e

Ecological site: R026XF052CA--Granitic upland 9-12

Component Description**Mottsville gravelly loamy coarse sand and similar soils**

Landform: Fan remnants

Slope: 2 to 9 percent

Parent material: Alluvium derived from granite

Typical vegetation: Indian ricegrass, antelope bitterbrush, needleandthread, desert peach, desert needlegrass, basin big sagebrush, bottlebrush squirreltail

Typical profile:

Layer 1--0 to 17 inches; gravelly loamy coarse sand

Layer 2--17 to 60 inches; stratified gravelly coarse sand to loamy sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low

Permeability class (root zone): Rapid

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Excessively drained

Interpretive Groups

Irrigated land capability: 3e-1

Nonirrigated land capability: 6e

Ecological site: R026XF051CA--Granitic fan 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Devada very stony loam and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 9 percent

Landform: Plateaus

Typical vegetation: Thurber needlegrass, bluegrass, low sagebrush, bluebunch wheatgrass

Ecological site: R023XF081CA--Shallow stony loam 9-12

McConnel and similar soils

Composition: 0 to 4 percent

Slope: 2 to 9 percent

Landform: Fan remnants

Typical vegetation: Yellow rabbitbrush, Wyoming big sagebrush, bluebunch wheatgrass, Thurber needlegrass, bottlebrush squirreltail, Indian ricegrass, spiny hopsage

Ecological site: R026XF052CA--Granitic upland 9-12

Zorravista sand and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Dunes

Typical vegetation: Needleandthread, littleleaf horsebrush, black greasewood, basin big sagebrush, rubber rabbitbrush, basin wildrye, fourwing saltbush, spiny hopsage, Indian ricegrass

Ecological site: R023XG049CA--Sand dunes 6-9

Longcreek very cobbly loam and similar soils

Composition: 0 to 3 percent

Slope: 5 to 9 percent

Landform: Plateaus

Typical vegetation: Thurber needlegrass, basin wildrye, mountain big sagebrush, bluebunch wheatgrass, antelope bitterbrush

Ecological site: R023XF082CA--Stony loam 9-12

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

284--McDermott silt loam, 0 to 5 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Lake plain

Elevation: 4,000 to 4,100

Precipitation: 6 to 9 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

McDermott silt loam, 0 to 5 percent slopes--85 percent

Calnat sandy loam, 0 to 2 percent slopes--4 percent

Stiles clay loam, 0 to 2 percent slopes--4 percent

Standish fine sandy loam, 0 to 2 percent slopes--4 percent

Playas silty clay, 0 to 1 percent slopes--3 percent

Component Description

McDermott silt loam and similar soils

Landform: Lake terraces

Slope: 0 to 5 percent

Parent material: Lacustrine deposits

Typical vegetation: Basin big sagebrush, basin wildrye, black greasewood, bottlebrush squirreltail

Typical profile:

Layer 1--0 to 13 inches; silt loam

Layer 2--13 to 19 inches; clay loam

Layer 3--19 to 35 inches; silty clay loam

Layer 4--35 to 50 inches; clay loam

Layer 5--50 to 60 inches; silt loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium

Permeability class (root zone): Moderately slow

Sodicity: Sodic within 40 inches

Available water capacity: About 10 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XG048CA--Sodic loam 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Calnat sandy loam and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Bottlebrush squirreltail, black greasewood, basin wildrye, basin big sagebrush

Ecological site: R023XG048CA--Sodic loam 6-9

Stiles clay loam and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Basin big sagebrush, basin wildrye, black greasewood, bottlebrush squirreltail

Ecological site: R023XG048CA--Sodic loam 6-9

Standish fine sandy loam and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Inland saltgrass, black greasewood, rabbitbrush, basin big sagebrush, basin wildrye

Ecological site: R023XG059CA--Saline-sodic loam 6-12

Playas silty clay

Composition: 0 to 3 percent

Slope: 0 to 1 percent

Landform: Playas

Ecological site: None assigned

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

285--Modoc-Truax complex, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 4,020 to 4,250
 Precipitation: 9 to 12 inches

Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Modoc sandy loam, 0 to 2 percent slopes--70 percent
 Truax sandy loam, 0 to 2 percent slopes--20 percent
 Bobert sandy loam, 0 to 2 percent slopes--4 percent
 Ardep sandy loam, 0 to 2 percent slopes--4 percent
 Fordney loamy fine sand, 0 to 2 percent slopes--2 percent

Component Description

Modoc sandy loam and similar soils

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Lacustrine deposits
 Typical vegetation: Bluebunch wheatgrass, basin big sagebrush, basin wildrye, Idaho fescue

Typical profile:

Layer 1--0 to 16 inches; sandy loam
 Layer 2--16 to 28 inches; sandy clay loam
 Layer 3--28 to 50 inches; indurated
 Layer 4--50 to 60 inches; stratified gravelly coarse sandy loam to very fine sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Duripan: 20 to 40 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3e-8
 Nonirrigated land capability: 6e
 Ecological site: R021XE186CA--Loamy terrace 12-16

Component Description

Truax sandy loam and similar soils

Landform: Fan remnants
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from mixed rocks
 Typical vegetation: Basin big sagebrush, basin wildrye, antelope bitterbrush, bottlebrush squirreltail, needleandthread, Thurber needlegrass

Typical profile:

Layer 1--0 to 6 inches; sandy loam
 Layer 2--6 to 27 inches; sandy clay loam
 Layer 3--27 to 41 inches; sandy loam
 Layer 4--41 to 52 inches; cemented
 Layer 5--52 to 60 inches; stratified gravelly sandy loam to sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Cemented horizon: 40 to 60 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3e-8
 Nonirrigated land capability: 6e
 Ecological site: R021XE186CA--Loamy terrace 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Bobert sandy loam and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Stream terraces
 Typical vegetation: Inland saltgrass, rabbitbrush, basin big sagebrush, black greasewood, basin wildrye
 Ecological site: R023XG059CA--Saline-sodic loam 6-12

Ardep sandy loam and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces

Typical vegetation: Littleleaf horsebrush, basin wildrye, fourwing saltbush, basin big sagebrush, needleandthread, Indian ricegrass

Ecological site: R023XG054CA--Sandy terrace 6-9

Fordney loamy fine sand and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Fan remnants

Ecological site: None assigned

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing, urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

286--Mottsville loamy coarse sand, 0 to 2 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Fan piedmonts

Elevation: 4,050 to 4,400

Precipitation: 12 to 16 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Mottsville loamy coarse sand, 0 to 2 percent slopes--85 percent

Springmeyer sandy loam, 0 to 2 percent slopes--5 percent

Chimney gravelly loamy coarse sand, 2 to 5 percent slopes--5 percent

Calpine sandy loam, 0 to 2 percent slopes--5 percent

Component Description

Mottsville loamy coarse sand and similar soils

Landform: Fan remnants

Slope: 0 to 2 percent

Parent material: Alluvium derived from granite

Typical vegetation: Mountain big sagebrush, Indian ricegrass, antelope bitterbrush, needleandthread, bottlebrush squirreltail, other perennial forbs, other perennial grasses, other shrubs

Typical profile:

Layer 1--0 to 17 inches; loamy coarse sand

Layer 2--17 to 60 inches; stratified gravelly coarse sand to loamy sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Negligible

Permeability class (root zone): Rapid

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Excessively drained

Interpretive Groups

Irrigated land capability: 3e-4

Nonirrigated land capability: 4e-4

Ecological site: R021XE181CA--Granitic fan 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Springmeyer sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Fans remnants

Typical vegetation: Other shrubs, bottlebrush squirreltail, antelope bitterbrush, Thurber needlegrass, other annual forbs, big sagebrush, yellow rabbitbrush, basin wildrye, other perennial forbs, other perennial grasses

Ecological site: R021XE186CA--Loamy terrace 12-16

Chimney gravelly loamy coarse sand and similar soils

Composition: 0 to 5 percent

Slope: 2 to 5 percent

Landform: Toeslopes of mountains

Typical vegetation: Forest canopy--California black oak, Jeffrey pine; Forest understory--Idaho fescue, bottlebrush squirreltail, Columbia needlegrass, squawcarpet, mountain big sagebrush, antelope bitterbrush

Ecological site: None assigned

Calpine and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Alluvial fans

Typical vegetation: Western needlegrass, mountain big sagebrush, beardless wildrye, needleandthread, antelope bitterbrush, Indian ricegrass

Ecological site: R021XE181CA--Granitic fan 12-16

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing, wildlife habitat, urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Forest land" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

287--Mottsville loamy coarse sand, 2 to 9 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Fan piedmont
 Elevation: 4,200 to 4,400
 Precipitation: 12 to 16 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Mottsville loamy coarse sand, 2 to 9 percent slopes--85 percent
 Springmeyer sandy loam, 2 to 5 percent slopes--4 percent
 Calpine sandy loam, 2 to 9 percent slopes--4 percent
 Janile gravelly loamy coarse sand, 30 to 50 percent slopes--4 percent
 Artray sandy loam, 2 to 9 percent slopes--3 percent

Component Description

Mottsville loamy coarse sand and similar soils

Landform: Fan remnants
 Slope: 2 to 9 percent
 Parent material: Alluvium derived from granite
 Typical vegetation: Mountain big sagebrush, Indian ricegrass, antelope bitterbrush, needleandthread, bottlebrush squirreltail, other perennial forbs, other perennial grasses, other shrubs

Typical profile:

Layer 1--0 to 17 inches; loamy coarse sand
 Layer 2--17 to 60 inches; stratified gravelly coarse sand to loamy sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low
 Permeability class (root zone): Rapid
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Excessively drained

Interpretive Groups

Irrigated land capability: 3e-1
 Nonirrigated land capability: 4e-4
 Ecological site: R021XE181CA--Granitic fan 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Springmeyer sandy loam and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 5 percent
 Landform: Fans remnants
 Typical vegetation: Thurber needlegrass, other shrubs, other perennial grasses, antelope bitterbrush, bottlebrush squirreltail, other perennial forbs, basin wildrye, yellow rabbitbrush, big sagebrush, other annual forbs
 Ecological site: R021XE186CA--Loamy terrace 12-16

Calpine and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 9 percent
 Landform: Alluvial fans
 Typical vegetation: Antelope bitterbrush, mountain big sagebrush, Indian ricegrass, needleandthread, beardless wildrye, western needlegrass
 Ecological site: R021XE181CA

Janile and similar soils

Composition: 0 to 4 percent
 Slope: 30 to 50 percent, south aspect
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--Jeffrey pine, Forest understory--mountain big sagebrush, Idaho fescue, antelope bitterbrush, bottlebrush squirreltail, Columbia needlegrass
 Ecological site: None assigned

Artray sandy loam and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 9 percent
 Landform: Alluvial fans
 Ecological site: None assigned

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing, wildlife habitat, and urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Forest land" section
 "Crops and Pasture" section

"Engineering" section
 "Soil Properties" section

288--Mottsville gravelly loamy coarse sand, 0 to 2 percent slopes

Map Unit Setting

MLRA: 26
 Landscape: Fan piedmont
 Elevation: 4,200 to 4,400
 Precipitation: 9 to 12 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Mottsville gravelly loamy coarse sand, 0 to 2 percent slopes--80 percent
 Xerolls loamy coarse sand, 0 to 1 percent slopes--10 percent
 Calpine sandy loam, 0 to 2 percent slopes--10 percent

Component Description

Mottsville gravelly loamy coarse sand and similar soils

Landform: Fan remnants
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from granite
 Typical vegetation: Indian ricegrass, antelope bitterbrush, needleandthread, desert peach, desert needlegrass, basin big sagebrush, bottlebrush squirreltail

Typical profile:

Layer 1--0 to 17 inches; gravelly loamy coarse sand
 Layer 2--17 to 60 inches; stratified gravelly coarse sand to loamy sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Negligible
 Permeability class (root zone): Rapid
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Excessively drained

Interpretive Groups

Irrigated land capability: 3e-4
 Nonirrigated land capability: 6e
 Ecological site: R026XF051CA--Granitic fan 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Xerolls loamy coarse sand and similar soils

Composition: 0 to 10 percent
 Slope: 0 to 1 percent
 Landform: Lakeshores
 Ecological site: None assigned

Calpine and similar soils

Composition: 0 to 10 percent
 Slope: 0 to 2 percent
 Landform: Alluvial fans
 Typical vegetation: Western needlegrass, mountain big sagebrush, beardless wildrye, needleandthread, antelope bitterbrush, Indian ricegrass
 Ecological site: R021XE181CA--Granitic fan 12-16

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing, wildlife habitat

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

289--Mottsville gravelly loamy coarse sand, 2 to 9 percent slopes

Map Unit Setting

MLRA: 26
 Landscape: Fan piedmont
 Elevation: 4,100 to 5,000
 Precipitation: 9 to 12 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Mottsville gravelly loamy coarse sand, 2 to 9 percent slopes--80 percent
 Springmeyer loam, 2 to 9 percent slopes--5 percent
 Longcreek very stony loam, 30 to 60 percent slopes--5 percent
 Devada very stony loam, 2 to 5 percent slopes--5 percent
 Corral loam, 2 to 9 percent slopes--5 percent

Component Description

Mottsville gravelly loamy coarse sand and similar soils

Landform: Fan remnants
 Slope: 2 to 9 percent

Parent material: Alluvium derived from granite
 Typical vegetation: Indian ricegrass, antelope bitterbrush, needleandthread, desert peach, desert needlegrass, basin big sagebrush, bottlebrush squirreltail

Typical profile:

Layer 1--0 to 17 inches; gravelly loamy coarse sand
 Layer 2--17 to 60 inches; stratified gravelly coarse sand to loamy sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low
 Permeability class (root zone): Rapid
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Excessively drained

Interpretive Groups

Irrigated land capability: 3e-1
 Nonirrigated land capability: 6e
 Ecological site: R026XF051CA--Granitic fan 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Springmeyer loam and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 9 percent
 Landform: Fans remnants
 Typical vegetation: Needleandthread, big sagebrush, Thurber needlegrass, basin wildrye
 Ecological site: R023XF091CA--Loamy upland 9-12

Longcreek very stony loam and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 60 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Antelope bitterbrush, basin wildrye, mountain big sagebrush, Thurber needlegrass, bluebunch wheatgrass
 Ecological site: R023XF082CA--Stony loam 9-12

Devada very stony loam and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 5 percent, south aspect
 Landform: Backslopes of mountains, ridges
 Typical vegetation: Thurber needlegrass, low sagebrush, bluegrass, bluebunch wheatgrass
 Ecological site: R023XF081CA--Shallow stony loam 9-12

Corral loam and similar soils

Composition: 0 to 5 percent

Slope: 2 to 9 percent
 Landform: Escarpments
 Typical vegetation: Basin wildrye, big sagebrush, needleandthread, Thurber needlegrass
 Ecological site: R023XF091CA--Loamy upland 9-12

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing, livestock grazing, urban development
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

290--Mottsville gravelly loamy coarse sand, 9 to 15 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Fan piedmonts
 Elevation: 4,000 to 4,200
 Precipitation: 12 to 16 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Mottsville gravelly loamy coarse sand, 9 to 15 percent slopes--85 percent
 Rock outcrop, 15 to 30 percent slopes--5 percent
 Chimney gravelly loamy coarse sand, 15 to 30 percent slopes--5 percent
 Calpine sandy loam, 15 to 30 percent slopes--5 percent

Component Description

Mottsville gravelly loamy coarse sand and similar soils

Landform: Fan remnants
 Slope: 9 to 15 percent
 Parent material: Alluvium derived from granite
 Typical vegetation: Mountain big sagebrush, Indian ricegrass, antelope bitterbrush, needleandthread, bottlebrush squirreltail, other perennial forbs, other perennial grasses, other shrubs

Typical profile:

Layer 1--0 to 17 inches; gravelly loamy coarse sand
 Layer 2--17 to 60 inches; stratified gravelly coarse sand to loamy sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low
 Permeability class (root zone): Rapid
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Excessively drained

Interpretive Groups

Irrigated land capability: 4e-1
 Nonirrigated land capability: 6e
 Ecological site: R021XE181CA--Granitic fan 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Rock outcrop**

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Plateaus
 Ecological site: None assigned

Chimney gravelly loamy coarse sand and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Toeslopes of mountains
 Typical vegetation: Forest canopy--California black oak, Jeffrey pine; Forest understory--antelope bitterbrush, mountain big sagebrush, Columbia needlegrass, squawcarpet, Idaho fescue, bottlebrush squirreltail
 Ecological site: None assigned

Calpine and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Alluvial fans
 Typical vegetation: Needleandthread, mountain big sagebrush, Indian ricegrass, western needlegrass, beardless wildrye, antelope bitterbrush
 Ecological site: R021XE181CA--Granitic fan 12-16

Management

Major uses: Livestock grazing, wildlife habitat, urban development
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

291--Mottsville gravelly loamy coarse sand, 15 to 30 percent slopes**Map Unit Setting**

MLRA: 21
 Landscape: Fan piedmont
 Elevation: 4,200 to 4,400
 Precipitation: 11 to 13 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Mottsville gravelly loamy coarse sand, 15 to 30 percent slopes--90 percent
 Mottsville gravelly loamy coarse sand, 15 to 30 percent slopes, eroded--10 percent

Component Description**Mottsville gravelly loamy coarse sand and similar soils**

Landform: Fan remnants
 Slope: 15 to 30 percent
 Parent material: Alluvium derived from granite
 Typical vegetation: Mountain big sagebrush, Indian ricegrass, antelope bitterbrush, needleandthread, bottlebrush squirreltail, other perennial forbs, other perennial grasses, other shrubs

Typical profile:

Layer 1--0 to 17 inches; gravelly loamy coarse sand
 Layer 2--17 to 60 inches; stratified gravelly coarse sand to loamy sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low
 Permeability class (root zone): Rapid
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Excessively drained

Interpretive Groups

Irrigated land capability: 4e-1
 Nonirrigated land capability: 6e
 Ecological site: R021XE181CA--Granitic fan 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Mottsville eroded and similar soils**

Composition: 0 to 10 percent

Slope: 15 to 30 percent
 Landform: Fan remnants
 Typical vegetation: Antelope bitterbrush, needleandthread, bottlebrush squirreltail, other perennial forbs, other perennial grasses, other shrubs, mountain big sagebrush, Indian ricegrass
 Ecological site: R021XE181CA

Management

Major uses: Livestock grazing, wildlife habitat
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

292--Mottsville-Galeppi association, 15 to 50 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Fan piedmont
 Elevation: 4,100 to 4,200
 Precipitation: 10 to 15 inches
 Air temperature: 48 to 50 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Mottsville gravelly loamy coarse sand, 15 to 50 percent slopes--60 percent
 Galeppi sandy loam, 15 to 50 percent slopes--30 percent
 Mottsville gravelly loamy coarse sand, 15 to 30 percent slopes, eroded--10 percent

Component Description

Mottsville gravelly loamy coarse sand and similar soils

Landform: Fan remnants
 Slope: 15 to 50 percent
 Parent material: Alluvium derived from granite
 Typical vegetation: Indian ricegrass, antelope bitterbrush, needleandthread, desert peach, desert needlegrass, basin big sagebrush, bottlebrush squirreltail

Typical profile:

Layer 1--0 to 17 inches; gravelly loamy coarse sand
 Layer 2--17 to 60 inches; stratified gravelly coarse sand to loamy sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low
 Permeability class (root zone): Rapid
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Excessively drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R026XF051CA--Granitic fan 9-12

Component Description

Galeppi sandy loam and similar soils

Landform: Fan remnants
 Slope: 15 to 50 percent
 Parent material: Alluvium derived from granite
 Typical vegetation: Bluebunch wheatgrass, Wyoming big sagebrush, green ephedra, Anderson peachbrush, antelope bitterbrush, needlegrass

Typical profile:

Layer 1--0 to 18 inches; sandy loam
 Layer 2--18 to 36 inches; sandy clay loam
 Layer 3--36 to 52 inches; sandy loam
 Layer 4--52 to 60 inches; loamy sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Permeability class (root zone): Moderately slow
 Available water capacity: About 7 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R026XF052CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Mottsville eroded and similar soils

Composition: 0 to 10 percent
 Slope: 15 to 30 percent
 Landform: Fan remnants
 Typical vegetation: Desert needlegrass, desert peach, needleandthread, bottlebrush squirreltail, antelope bitterbrush, Indian ricegrass, basin big sagebrush
 Ecological site: R026XF051CA--Granitic fan 9-12

Management

Major uses: Livestock grazing, wildlife habitat

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Engineering" section
 "Soil Properties" section

293--Mountmed peat, 0 to 1 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Alluvial plain
 Elevation: 5,200 to 5,300
 Precipitation: 30 to 35 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Mountmed peat, 0 to 1 percent slopes--85 percent
 Keddie loam, 0 to 1 percent slopes--8 percent
 Inville very gravelly sandy loam, 0 to 1 percent slopes--7 percent

Component Description

Mountmed peat and similar soils

Landform: Flood plains
 Slope: 0 to 1 percent
 Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 6 inches; peat
 Layer 2--6 to 16 inches; clay
 Layer 3--16 to 38 inches; clay
 Layer 4--38 to 47 inches; clay loam
 Layer 5--47 to 60 inches; stratified sand to very gravelly sandy clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Permeability class (root zone): Slow
 Available water capacity: About 9 inches
 Present flooding: None
 Water table: Present
 Natural drainage class: Very poorly drained

Interpretive Groups

Nonirrigated land capability: 5w
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Keddie loam and similar soils

Composition: 0 to 8 percent
 Slope: 0 to 1 percent
 Landform: Alluvial fans
 Ecological site: None assigned

Inville very gravelly sandy loam and similar soils

Composition: 0 to 7 percent
 Slope: 0 to 1 percent
 Landform: Alluvial fans
 Typical vegetation: Forest canopy--Jeffrey pine, lodgepole pine, ponderosa pine; Forest understory--snowbrush ceanothus, whitethorn ceanothus, manzanita
 Ecological site: None assigned

Management

Major uses: Livestock grazing, irrigated grass hay, and pasture, and wildlife habitat

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Forest land" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

294--Mountmed loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Alluvial plain
 Elevation: 5,200 to 5,300
 Precipitation: 30 to 35 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Mountmed loam, 0 to 2 percent slopes--85 percent
 Inville very gravelly sandy loam, 0 to 2 percent slopes--8 percent
 Keddie loam, 0 to 2 percent slopes--7 percent

Component Description

Mountmed loam and similar soils

Landform: Flood plains
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 6 inches; loam

Layer 2--6 to 35 inches; clay
 Layer 3--35 to 60 inches; stratified sand to very gravelly sandy clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Permeability class (root zone): Slow
 Available water capacity: About 7 inches
 Present flooding: Frequent
 Water table: Present
 Natural drainage class: Very poorly drained

Interpretive Groups

Nonirrigated land capability: 5w
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Inville very gravelly sandy loam and similar soils

Composition: 0 to 8 percent
 Slope: 0 to 2 percent
 Landform: Alluvial fans
 Typical vegetation: Forest canopy--Jeffrey pine, lodgepole pine, ponderosa pine; Forest understory--whitethorn ceanothus, manzanita, snowbrush ceanothus
 Ecological site: None assigned

Keddie loam and similar soils

Composition: 0 to 7 percent
 Slope: 0 to 2 percent
 Landform: Alluvial fans
 Ecological site: None assigned

Management

Major uses: Livestock grazing, irrigated hay and pasture, wildlife habitat

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Forest land" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

295--Mountmed clay loam, 0 to 3 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Alluvial plain
 Elevation: 5,000 to 5,200
 Precipitation: 30 to 35 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Mountmed clay loam, 0 to 3 percent slopes--90 percent
 Mountmed clay loam, 0 to 3 percent slopes, nonflooded--6 percent
 Keddie loam, 0 to 3 percent slopes--4 percent

Component Description

Mountmed clay loam and similar soils

Landform: Flood plains
 Slope: 0 to 3 percent
 Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 12 inches; clay loam
 Layer 2--12 to 31 inches; clay
 Layer 3--31 to 60 inches; stratified very gravelly sandy loam to extremely gravelly sandy clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Permeability class (root zone): Slow
 Available water capacity: About 8 inches
 Present flooding: Frequent
 Present ponding: Frequent
 Water table: Present
 Natural drainage class: Very poorly drained

Interpretive Groups

Irrigated land capability: 4w-1
 Nonirrigated land capability: 4w-1
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Mountmed clay loam and similar soils

Composition: 0 to 6 percent
 Slope: 0 to 3 percent
 Landform: Flood plain
 Ecological site: None assigned

Keddie loam and similar soils

Composition: 0 to 4 percent

Slope: 0 to 3 percent
 Landform: Alluvial fans
 Ecological site: None assigned

Management

Major uses: Livestock grazing, irrigated hay and pasture, urban development, wildlife habitat

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

296--Newlands-Hapgood association, 5 to 30 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 6,000 to 7,000
 Precipitation: 12 to 16 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 50 to 70 days

Composition

Newlands stony loam, 5 to 30 percent slopes--50 percent
 Hapgood stony loam, 5 to 30 percent slopes--40 percent
 Home Camp stony loam, 5 to 30 percent slopes--5 percent
 Ninemile very stony loam, 5 to 30 percent slopes--5 percent

Component Description

Newlands stony loam and similar soils

Landform: Backslopes of mountains
 Slope: 5 to 30 percent, north aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Mountain big sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, needlegrass

Typical profile:

Surface rock fragments: About 5 percent cobbles, 5 percent stones
 Layer 1--0 to 8 inches; stony loam
 Layer 2--8 to 43 inches; gravelly clay loam
 Layer 3--43 to 45 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 7 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE044CA--Cool loam 12-16

Component Description

Hapgood stony loam and similar soils

Landform: Backslopes of mountains, ridges
 Slope: 5 to 30 percent, north aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, arrowleaf balsamroot, basin wildrye, Idaho fescue, lupine, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 10 percent cobbles, 5 percent stones
 Layer 1--0 to 4 inches; stony loam
 Layer 2--4 to 41 inches; very gravelly loam
 Layer 3--41 to 45 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Permeability class (root zone): Moderate

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE044CA--Cool loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Home Camp stony loam and similar soils

Composition: 0 to 5 percent

Slope: 5 to 30 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Antelope bitterbrush, Idaho fescue, mountain big sagebrush, bluebunch wheatgrass, needlegrass

Ecological site: R021XE174CA--Stony loam 12-16

Ninemile very stony loam and similar soils

Composition: 0 to 5 percent

Slope: 5 to 30 percent

Landform: Backslopes of plateaus, summits of plateaus

Typical vegetation: Idaho fescue, bluebunch wheatgrass, low sagebrush, Thurber needlegrass, bottlebrush squirreltail, antelope bitterbrush, bluegrass, balsamroot

Ecological site: R021XE173CA--Shallow stony loam 12-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

297--Ninemile-Home Camp-Newlands association, 2 to 30 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 6,000 to 7,000

Precipitation: 12 to 16 inches

Air temperature: 42 to 44 degrees Fahrenheit

Frost-free period: 50 to 70 days

Composition

Ninemile very stony loam, 2 to 15 percent slopes--45 percent

Home Camp stony loam, 5 to 30 percent slopes--25 percent

Newlands stony loam, 5 to 30 percent slopes--20 percent

Rubble land, 15 to 30 percent slopes--5 percent

Rock outcrop, 15 to 30 percent slopes--5 percent

Component Description

Ninemile very stony loam and similar soils

Landform: Ridges

Slope: 2 to 15 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, low sagebrush, balsamroot, Idaho fescue, bluegrass, antelope bitterbrush, bottlebrush squirreltail, Thurber needlegrass

Typical profile:

Surface rock fragments: About 20 percent cobbles, 25 percent stones

Layer 1--0 to 2 inches; very stony loam

Layer 2--2 to 11 inches; clay

Layer 3--11 to 18 inches; gravelly clay

Layer 4--18 to 22 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Permeability class (root zone): Impermeable

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE173CA--Shallow stony loam 12-16

Component Description

Home Camp stony loam and similar soils

Landform: Backslopes of mountains

Slope: 5 to 30 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, needlegrass

Typical profile:

Surface rock fragments: About 10 percent cobbles, 5 percent stones

Layer 1--0 to 3 inches; stony loam

Layer 2--3 to 9 inches; cobbly loam

Layer 3--9 to 17 inches; very cobbly clay loam

Layer 4--17 to 28 inches; very gravelly clay

Layer 5--28 to 32 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE174CA--Stony loam 12-16

Component Description**Newlands stony loam and similar soils**

Landform: Toeslopes of mountains

Slope: 5 to 30 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Mountain big sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, needlegrass

Typical profile:

Surface rock fragments: About 5 percent cobbles, 5 percent stones

Layer 1--0 to 8 inches; stony loam

Layer 2--8 to 43 inches; gravelly clay loam

Layer 3--43 to 45 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 7 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE044CA--Cool loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Rubble land**

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Mountains

Ecological site: None assigned

Rock outcrop

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Mountains

Ecological site: None assigned

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

298--Ninemile-Petescreek-Fiddler association, 2 to 30 percent slopes**Map Unit Setting**

MLRA: 21

Landscape: Plateau

Elevation: 6,000 to 6,200

Precipitation: 12 to 16 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Ninemile very stony loam, 2 to 5 percent slopes--30 percent

Petescreek gravelly loam, 5 to 15 percent slopes--30 percent

Fiddler very stony loam, 15 to 30 percent slopes--25 percent

Rock outcrop, 15 to 30 percent slopes--5 percent

Fredonyer very stony loam, 15 to 30 percent slopes--5 percent

Devada very stony loam, 5 to 30 percent slopes--5 percent

Component Description**Ninemile very stony loam and similar soils**

Landform: Plateaus

Slope: 2 to 5 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, low sagebrush, balsamroot, Idaho fescue, bluegrass, antelope bitterbrush, bottlebrush squirreltail, Thurber needlegrass

Typical profile:

Surface rock fragments: About 20 percent cobbles, 30 percent stones

Layer 1--0 to 2 inches; very stony loam

Layer 2--2 to 11 inches; clay

Layer 3--11 to 18 inches; gravelly clay

Layer 4--18 to 22 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Permeability class (root zone): Impermeable

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE173CA--Shallow stony loam 12-16

Component Description**Petescreek gravelly loam and similar soils**

Landform: Backslopes of plateaus

Slope: 5 to 15 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Mountain big sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, needlegrass

Typical profile:

Surface rock fragments: About 2 percent stones

Layer 1--0 to 10 inches; gravelly loam

Layer 2--10 to 17 inches; gravelly loam

Layer 3--17 to 27 inches; cobbly loam

Layer 4--27 to 60 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE044CA--Cool loam 12-16

Component Description**Fiddler very stony loam and similar soils**

Landform: Backslopes of plateaus

Slope: 15 to 30 percent, south aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--western juniper, Forest understory--bluebunch wheatgrass, Nevada bluegrass, Sandberg bluegrass, bottlebrush squirreltail, Idaho fescue, mountain big sagebrush, Thurber

needlegrass, arrowleaf balsamroot, antelope

bitterbrush, rabbitbrush

Site index: Western juniper--20 at an age base of 50 years

Typical profile:

Surface rock fragments: About 20 percent cobbles, 15 percent stones

Layer 1--0 to 8 inches; very stony loam

Layer 2--8 to 14 inches; very cobbly clay loam

Layer 3--14 to 23 inches; clay

Layer 4--23 to 28 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE174CA--Stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Rock outcrop**

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Mountains

Ecological site: None assigned

Fredonyer very stony loam and similar soils

Composition: 0 to 5 percent

Slope: 15 to 30 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Idaho fescue, curleaf mountain mahogany, mountain big sagebrush

Ecological site: R021XE178CA--Very stony loam 12-16

Devada very stony loam and similar soils

Composition: 0 to 5 percent

Slope: 5 to 30 percent, south aspect

Landform: Backslopes of mountains, ridges

Typical vegetation: Thurber needlegrass, low sagebrush, bluebunch wheatgrass, Idaho fescue, bluegrass, antelope bitterbrush

Ecological site: R021XE173CA--Shallow stony loam 12-16

Management

Major uses: Livestock grazing, juniper wood products
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

299--Ninemile-Weste complex, 0 to 9 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Plateau
 Elevation: 5,200 to 5,300
 Precipitation: 30 to 35 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Ninemile extremely cobbly loam, 0 to 2 percent slopes--50 percent
 Weste very gravelly sandy loam, 2 to 9 percent slopes--35 percent
 Mountmed clay loam, 0 to 2 percent slopes--8 percent
 Rock outcrop, 5 to 9 percent slopes--7 percent

Component Description

Ninemile extremely cobbly loam and similar soils

Landform: Backslopes of plateaus, summits of plateaus
 Slope: 0 to 2 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Bluebunch wheatgrass, low sagebrush, balsamroot, Idaho fescue, bluegrass, antelope bitterbrush, bottlebrush squirreltail, Thurber needlegrass

Typical profile:

Surface rock fragments: About 35 percent cobbles, 15 percent stones
 Layer 1--0 to 2 inches; extremely cobbly loam
 Layer 2--2 to 11 inches; clay
 Layer 3--11 to 18 inches; gravelly clay
 Layer 4--18 to 22 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Permeability class (root zone): Impermeable

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE173CA

Component Description

Weste very gravelly sandy loam and similar soils

Landform: Backslopes of plateaus

Slope: 2 to 9 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, sugar pine, white fir

Site index: Jeffrey pine--101 at an age base of 100 years

Site index: White fir--53 at an age base of 50 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 70

Typical profile:

Layer 1--0 to 14 inches; very gravelly sandy loam

Layer 2--14 to 24 inches; very gravelly loam

Layer 3--24 to 34 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 3 inches thick

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Mountmed clay loam and similar soils

Composition: 0 to 8 percent

Slope: 0 to 2 percent

Landform: Flood plains
Ecological site: None assigned

Rock outcrop

Composition: 0 to 7 percent
Slope: 5 to 9 percent
Landform: Ridges
Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" section
"Soil Properties" section

300--Observation-Searles-Madeline association, 9 to 30 percent slopes

Map Unit Setting

MLRA: 21
Landscape: Mountains, plateau
Elevation: 5,600 to 6,000
Precipitation: 12 to 16 inches
Air temperature: 44 to 46 degrees Fahrenheit
Frost-free period: 60 to 80 days

Composition

Observation very stony loam, 9 to 30 percent slopes--35 percent
Searles very stony loam, 9 to 30 percent slopes--30 percent
Madeline very stony loam, 9 to 30 percent slopes--20 percent
Glean very stony loam, 9 to 30 percent slopes--5 percent
Ninemile very stony loam, 9 to 15 percent slopes--4 percent
Rubble land, 15 to 30 percent slopes--3 percent
Puls very stony loam, 5 to 9 percent slopes--3 percent

Component Description

Observation very stony loam and similar soils

Landform: Backslopes of mountains
Slope: 9 to 30 percent, north aspect
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, needlegrass

Typical profile:

Surface rock fragments: About 20 percent cobbles, 12 percent stones
Layer 1--0 to 3 inches; very stony loam
Layer 2--3 to 9 inches; loam
Layer 3--9 to 18 inches; clay loam
Layer 4--18 to 35 inches; gravelly clay
Layer 5--35 to 45 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
Permeability class (root zone): Slow
Available water capacity: About 5 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R021XE174CA--Stony loam 12-16

Component Description

Searles very stony loam and similar soils

Landform: Backslopes of mountains
Slope: 9 to 30 percent, south aspect
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 15 percent cobbles, 20 percent stones
Layer 1--0 to 13 inches; very stony loam
Layer 2--13 to 29 inches; very cobbly clay loam
Layer 3--29 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
Permeability class (root zone): Moderately slow
Available water capacity: About 3 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE179CA--Warm stony loam 12-16

Component Description

Madeline very stony loam and similar soils

Landform: Backslopes of mountains

Slope: 9 to 30 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 20 percent cobbles, 25 percent stones

Layer 1--0 to 5 inches; very stony loam

Layer 2--5 to 9 inches; gravelly clay loam

Layer 3--9 to 16 inches; gravelly clay

Layer 4--16 to 20 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE174CA--Stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Glean very stony loam and similar soils

Composition: 0 to 5 percent

Slope: 9 to 30 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Mountain big sagebrush, Idaho fescue, antelope bitterbrush, needlegrass, bluebunch wheatgrass

Ecological site: R021XE174CA--Stony loam 12-16

Ninemile very stony loam and similar soils

Composition: 0 to 4 percent

Slope: 9 to 15 percent

Landform: Plateaus

Typical vegetation: Bluegrass, bluebunch wheatgrass, Idaho fescue, balsamroot, low sagebrush, antelope

bitterbrush, Thurber needlegrass, bottlebrush squirreltail

Ecological site: R021XE173CA--Shallow stony loam 12-16

Rubble land

Composition: 0 to 3 percent

Slope: 15 to 30 percent

Landform: Mountains

Ecological site: None assigned

Puls very stony loam and similar soils

Composition: 0 to 3 percent

Slope: 5 to 9 percent

Landform: Plateaus

Typical vegetation: Idaho fescue, low sagebrush, bluebunch wheatgrass, bluegrass, antelope bitterbrush, Thurber needlegrass

Ecological site: R021XE173CA--Shallow stony loam 12-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

301--Observation-Searles-Madeline association, 30 to 50 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 6,000 to 6,700

Precipitation: 12 to 16 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Observation very stony loam, 30 to 50 percent slopes--35 percent

Searles very stony loam, 30 to 50 percent slopes--30 percent

Madeline very stony loam, 30 to 50 percent slopes--20 percent

Rubble land, 30 to 50 percent slopes--5 percent

Rock outcrop, 30 to 50 percent slopes--5 percent

Glean very stony loam, 30 to 50 percent slopes--5 percent

Component Description

Observation very stony loam and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, needlegrass

Typical profile:

Surface rock fragments: About 15 percent cobbles, 25 percent stones

Layer 1--0 to 3 inches; very stony loam

Layer 2--3 to 9 inches; loam

Layer 3--9 to 18 inches; clay loam

Layer 4--18 to 35 inches; gravelly clay

Layer 5--35 to 45 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 5 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R021XE174CA--Stony loam 12-16

Component Description

Searles very stony loam and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent, south aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 15 percent cobbles, 20 percent stones

Layer 1--0 to 13 inches; very stony loam

Layer 2--13 to 29 inches; very cobbly clay loam

Layer 3--29 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R021XE179CA--Warm stony loam 12-16

Component Description

Madeline very stony loam and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 20 percent cobbles, 20 percent stones

Layer 1--0 to 5 inches; very stony loam

Layer 2--5 to 9 inches; gravelly clay loam

Layer 3--9 to 16 inches; gravelly clay

Layer 4--16 to 20 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R021XE174CA--Stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rubble land

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Mountains

Ecological site: None assigned

Rock outcrop

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Mountains
Ecological site: None assigned

Glean very stony loam and similar soils

Composition: 0 to 5 percent
Slope: 30 to 50 percent, north aspect
Landform: Backslopes of mountains
Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, antelope bitterbrush, Idaho fescue, needlegrass
Ecological site: R021XE174CA--Stony loam 12-16

Management

Major uses: Livestock grazing
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Engineering" section
"Soil Properties" section

302--Orhood very stony sandy loam, 5 to 15 percent slopes

Map Unit Setting

MLRA: 21
Landscape: Mountains
Elevation: 4,200 to 5,600
Precipitation: 12 to 16 inches
Air temperature: 44 to 50 degrees Fahrenheit
Frost-free period: 60 to 80 days

Composition

Orhood very stony sandy loam, 5 to 15 percent slopes--80 percent
Incy fine sand, 5 to 15 percent slopes--8 percent
Searles very stony loam, 9 to 15 percent slopes--6 percent
Puls very stony loam, 5 to 9 percent slopes--6 percent

Component Description

Orhood very stony sandy loam and similar soils

Landform: Toeslopes of mountains
Slope: 5 to 15 percent
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
Typical vegetation: Forest canopy--western juniper, Forest understory--bluebunch wheatgrass, mountain big sagebrush, rabbitbrush, Lemmon needlegrass, Idaho fescue, antelope bitterbrush, Sandberg bluegrass, arrowleaf balsamroot, Thurber needlegrass
Site index: Western juniper--26 at an age base of 50 years

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15 percent stones
Layer 1--0 to 4 inches; very stony sandy loam

Layer 2--4 to 9 inches; very cobbly loam
Layer 3--9 to 19 inches; very cobbly clay loam
Layer 4--19 to 23 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
Permeability class (root zone): Moderately slow
Available water capacity: About 2 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R021XE174CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Incy fine sand and similar soils

Composition: 0 to 8 percent
Slope: 5 to 15 percent
Landform: Dunes
Typical vegetation: Western wheatgrass, Wyoming big sagebrush, arrowleaf balsamroot, Indian ricegrass, antelope bitterbrush, sand dropseed, needleandthread
Ecological site: R026XF022CA--Granitic sand 9-12

Searles very stony loam and similar soils

Composition: 0 to 6 percent
Slope: 9 to 15 percent, south aspect
Landform: Backslopes of mountains
Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Thurber needlegrass, antelope bitterbrush
Ecological site: R021XE179CA--Warm stony loam 12-16

Puls very stony loam and similar soils

Composition: 0 to 6 percent
Slope: 5 to 9 percent
Landform: Plateaus
Typical vegetation: Low sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, Thurber needlegrass, bluebunch wheatgrass
Ecological site: R021XE173CA--Shallow stony loam 12-16

Management

Major uses: Livestock grazing, urban development
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section

"Forest land" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

303--Orr sandy loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 26
 Landscape: Fan piedmont
 Elevation: 4,200 to 4,300
 Precipitation: 9 to 12 inches
 Air temperature: 49 to 51 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Orr sandy loam, 0 to 2 percent slopes--85 percent
 Calpine sandy loam, 0 to 2 percent slopes--5 percent
 Mottsville gravelly loamy coarse sand, 0 to 2 percent slopes--5 percent
 Bobert sandy loam, 0 to 2 percent slopes--3 percent
 Galeppi sandy loam, 2 to 5 percent slopes--2 percent

Component Description

Orr sandy loam and similar soils

Landform: Fan remnants
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from mixed rocks
 Typical vegetation: Wyoming big sagebrush, yellow rabbitbrush, beardless wildrye, Indian ricegrass, Anderson peachbrush, antelope bitterbrush, needleandthread

Typical profile:

Surface rock fragments: About 5 percent cobbles, 20 percent stones
 Layer 1--0 to 8 inches; sandy loam
 Layer 2--8 to 21 inches; sandy clay loam
 Layer 3--21 to 30 inches; sandy loam
 Layer 4--30 to 36 inches; sandy loam
 Layer 5--36 to 60 inches; loamy sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Permeability class (root zone): Moderately slow
 Available water capacity: About 7 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e-1
 Nonirrigated land capability: 6e
 Ecological site: R026XF051CA--Granitic fan 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Calpine and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Alluvial fans
 Typical vegetation: Western needlegrass, Indian ricegrass, antelope bitterbrush, needleandthread, beardless wildrye, mountain big sagebrush
 Ecological site: R021XE181CA--Granitic fan 12-16

Mottsville gravelly loamy coarse sand and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Fan remnants
 Typical vegetation: Antelope bitterbrush, needleandthread, desert peach, desert needlegrass, basin big sagebrush, bottlebrush squirreltail, Indian ricegrass
 Ecological site: R026XF051CA--Granitic fan 9-12

Bobert sandy loam and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Stream terraces
 Typical vegetation: Black greasewood, basin wildrye, inland saltgrass, basin big sagebrush, rabbitbrush
 Ecological site: R023XG059CA--Saline-sodic loam 6-12

Galeppi sandy loam and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 5 percent
 Landform: Fan remnants
 Typical vegetation: Needleandthread, Indian ricegrass, Anderson peachbrush, antelope bitterbrush, beardless wildrye, rubber rabbitbrush, Wyoming big sagebrush
 Ecological site: R026XF051CA--Granitic fan 9-12

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

304--Outland very stony loam, 30 to 50 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Mountains
 Elevation: 5,200 to 6,200
 Precipitation: 20 to 30 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Outland very stony loam, 30 to 50 percent slopes--75 percent
 Rock outcrop, 30 to 50 percent slopes--10 percent
 Rubble land, 30 to 50 percent slopes--10 percent
 Eaglelake very gravelly loam, 30 to 50 percent slopes--5 percent

Component Description

Outland very stony loam and similar soils

Landform: Mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, ponderosa pine, white fir; Forest understory--greenleaf manzanita, Sierra chinkapin, whitethorn ceanothus, squawcarpet, snowbrush ceanothus, antelope bitterbrush, sharpleaf snowberry, snowberry
 Site index: Jeffrey pine--88 at an age base of 100 years
 Site index: White fir--47 at an age base of 50 years
 Additional forest note: Dunning site class: III
 Additional forest note: Cactus site index: 55

Typical profile:

Surface rock fragments: About 5 percent cobbles, 20 percent stones
 Layer 1--0 to 4 inches; very stony loam
 Layer 2--4 to 18 inches; very cobbly sandy loam
 Layer 3--18 to 36 inches; extremely cobbly loam
 Layer 4--36 to 46 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 3 inches
 Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 10 percent
 Slope: 30 to 50 percent
 Landform: Shoulders of canyons, shoulders of mountains
 Ecological site: None assigned

Rubble land

Composition: 0 to 10 percent
 Slope: 30 to 50 percent
 Landform: Mountains
 Ecological site: None assigned

Eaglelake very gravelly loam and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--greenleaf manzanita, whitethorn ceanothus, snowbrush ceanothus, needlegrass, other perennial grasses
 Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

305--Outland complex, 5 to 30 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Plateau
 Elevation: 5,400 to 6,400
 Precipitation: 20 to 30 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Outland gravelly sandy loam, 5 to 15 percent slopes--60 percent

Outland very stony loam, 15 to 30 percent slopes--30 percent

Eaglelake very gravelly loam, 15 to 30 percent slopes--5 percent

Rock outcrop, 15 to 30 percent slopes--5 percent

Component Description

Outland gravelly sandy loam and similar soils

Landform: Summits of plateaus, backslopes of plateaus

Slope: 5 to 15 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, white fir,

Forest understory--greenleaf manzanita, Sierra

chinkapin, whitethorn ceanothus, squawcarpet,

snowbrush ceanothus, sharpleaf snowberry, snowberry

Site index: Jeffrey pine--88 at an age base of 100 years

Site index: White fir--47 at an age base of 50 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 55

Typical profile:

Layer 1--0 to 4 inches; gravelly sandy loam

Layer 2--4 to 18 inches; very gravelly loam

Layer 3--18 to 36 inches; extremely gravelly loam

Layer 4--36 to 46 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 3 inches thick

Runoff: Low

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Component Description

Outland very stony loam and similar soils

Landform: Plateaus

Slope: 15 to 30 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine,

ponderosa pine, white fir; Forest understory--greenleaf

manzanita, Sierra chinkapin, whitethorn ceanothus,

squawcarpet, snowbrush ceanothus, antelope

bitterbrush, sharpleaf snowberry, snowberry

Site index: Jeffrey pine--88 at an age base of 100 years

Site index: White fir--47 at an age base of 50 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 55

Typical profile:

Surface rock fragments: About 10 percent cobbles, 20 percent stones

Layer 1--0 to 4 inches; very stony loam

Layer 2--4 to 18 inches; very cobbly sandy loam

Layer 3--18 to 36 inches; extremely cobbly loam

Layer 4--36 to 46 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 3 inches thick

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Eaglelake very gravelly loam and similar soils

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Jeffrey pine, incense

cedar, sugar pine, white fir; Forest understory--other

perennial grasses, needlegrass, snowbrush ceanothus,

whitethorn ceanothus, greenleaf manzanita

Ecological site: None assigned

Rock outcrop

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Plateaus

Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

306--Outland-Penstock complex, 15 to 30 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Mountains
 Elevation: 4,900 to 5,500
 Precipitation: 25 to 30 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Outland very stony loam, 15 to 30 percent slopes--60 percent
 Penstock very gravelly sandy loam, 15 to 30 percent slopes--25 percent
 Deadwood very gravelly sandy loam, 15 to 30 percent slopes--8 percent
 Easte very gravelly sandy loam, 15 to 30 percent slopes--7 percent

Component Description

Outland very stony loam and similar soils

Landform: Backslopes of mountains
 Slope: 15 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, ponderosa pine; Forest understory--greenleaf manzanita, Sierra chinkapin, whitethorn ceanothus, squawcarpet, snowbrush ceanothus, antelope bitterbrush, sharpleaf snowberry, snowberry
 Site index: Douglas fir--83 at an age base of 100 years
 Additional forest note: Dunning site class: III
 Additional forest note: Cactus site index: 55

Typical profile:

Surface rock fragments: About 10 percent stones
 Layer 1--0 to 4 inches; very stony loam
 Layer 2--4 to 18 inches; very cobbly sandy loam
 Layer 3--18 to 36 inches; extremely cobbly loam
 Layer 4--36 to 46 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Component Description

Penstock very gravelly sandy loam and similar soils

Landform: Backslopes of mountains
 Slope: 15 to 30 percent
 Parent material: Colluvium derived from metavolcanics and residuum weathered from metavolcanics
 Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--manzanita, snowbrush ceanothus, whitethorn ceanothus, needlegrass, mountain brome
 Site index: Douglas fir--92 at an age base of 100 years
 Site index: Jeffrey pine--87 at an age base of 100 years
 Site index: White fir--58 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 59

Typical profile:

Layer 1--0 to 12 inches; very gravelly sandy loam
 Layer 2--12 to 63 inches; very gravelly loam
 Layer 3--63 to 73 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 61 to 73 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Deadwood very gravelly sandy loam and similar soils**

Composition: 0 to 8 percent

Slope: 15 to 30 percent

Landform: Ridges

Typical vegetation: Forest canopy--Douglas fir, canyon live oak, incense cedar, ponderosa pine, sugar pine,
Forest understory--California nutmeg, greenleaf manzanita, pinemat manzanita

Ecological site: None assigned

Easte very gravelly sandy loam and similar soils

Composition: 0 to 7 percent

Slope: 15 to 30 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--California red fir, white fir; Forest understory--greenleaf manzanita, needlegrass, other perennial grasses, whitethorn ceanothus, snowbrush ceanothus

Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Forest land" section

"Engineering" section

"Soil Properties" section

307--Outland-Penstock complex, 30 to 50 percent slopes***Map Unit Setting***

MLRA: 22

Landscape: Mountains

Elevation: 4,900 to 5,500

Precipitation: 25 to 30 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Outland very stony loam, 30 to 50 percent slopes--60 percent

Penstock very gravelly sandy loam, 30 to 50 percent slopes--25 percent

Fiddler, 30 to 50 percent slopes--8 percent

Easte, 30 to 50 percent slopes--7 percent

Component Description**Outland very stony loam and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 50 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, ponderosa pine; Forest understory--greenleaf manzanita, Sierra chinkapin, whitethorn ceanothus, squawcarpet, snowbrush ceanothus, antelope bitterbrush, sharpleaf snowberry, snowberry

Site index: Douglas fir--83 at an age base of 100 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 5

Typical profile:

Surface rock fragments: About 10 percent stones

Layer 1--0 to 4 inches; very stony loam

Layer 2--4 to 18 inches; very cobbly sandy loam

Layer 3--18 to 36 inches; extremely cobbly loam

Layer 4--36 to 46 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: None assigned

Component Description**Penstock very gravelly sandy loam and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 50 percent

Parent material: Colluvium derived from metavolcanics and residuum weathered from metavolcanics

Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--manzanita, snowbrush ceanothus, whitethorn ceanothus, needlegrass, mountain brome

Site index: Douglas fir--92 at an age base of 100 years

Site index: Jeffrey pine--87 at an age base of 100 years

Site index: White fir--58 at an age base of 50 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 59

Typical profile:

Layer 1--0 to 12 inches; very gravelly sandy loam

Layer 2--12 to 63 inches; very gravelly loam
 Layer 3--63 to 73 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 61 to 73 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Fiddler very stony loam and similar soils

Composition: 0 to 8 percent
 Slope: 30 to 50 percent
 Landform: Ridges
 Ecological site: None assigned

Easte deep to bedrock and similar soils

Composition: 0 to 7 percent
 Slope: 30 to 50 percent
 Landform: Mountains
 Ecological site: None assigned

Management

Major uses: Timber production, watershed, wildlife habitat, and recreation

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

308--Papeek clay loam, 9 to 30 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Hills
 Elevation: 4,700 to 5,000
 Precipitation: 20 to 25 inches

Air temperature: 48 to 50 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Papeek clay loam, 9 to 30 percent slopes--85 percent
 Ulhalf very gravelly sandy loam, 9 to 30 percent slopes--8 percent
 Papeek clay loam, 15 to 30 percent slopes, eroded--7 percent

Component Description

Papeek clay loam and similar soils

Landform: Toeslopes of hills
 Slope: 9 to 30 percent
 Parent material: Colluvium derived from metasedimentary rock and residuum weathered from metasedimentary rock
 Typical vegetation: Forest canopy--Jeffrey pine, Forest understory--mountain big sagebrush, Idaho fescue, antelope bitterbrush
 Site index: Jeffrey pine--79 at an age base of 100 years
 Additional forest note: Dunning site class: III
 Additional forest note: Cactus site index: 51

Typical profile:

Layer 1--0 to 3 inches; clay loam
 Layer 2--3 to 24 inches; clay
 Layer 3--24 to 33 inches; sandy clay loam
 Layer 4--33 to 43 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Ulhalf very gravelly sandy loam and similar soils

Composition: 0 to 8 percent
 Slope: 9 to 30 percent

Landform: Toeslopes of plateaus
 Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, ponderosa pine; Forest understory--mountain big sagebrush, Idaho fescue, antelope bitterbrush
 Ecological site: None assigned

Papeek clay loam and similar soils

Composition: 0 to 7 percent
 Slope: 15 to 30 percent
 Landform: Toeslopes of hills
 Typical vegetation: Forest canopy--Jeffrey pine, Forest understory--mountain big sagebrush, Idaho fescue, antelope bitterbrush
 Ecological site: None assigned

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

309--Papeek cobbly clay loam, 30 to 50 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Mountains
 Elevation: 5,200 to 5,800
 Precipitation: 20 to 25 inches
 Air temperature: 48 to 50 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Papeek clay loam, 30 to 50 percent slopes--95 percent
 Deadwood very gravelly sandy loam, 30 to 50 percent slopes--5 percent

Component Description

Papeek clay loam and similar soils

Landform: Mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from metasedimentary rock and residuum weathered from metasedimentary rock
 Typical vegetation: Forest canopy--Jeffrey pine, Forest understory--mountain big sagebrush, Idaho fescue, antelope bitterbrush
 Site index: Jeffrey pine--79 at an age base of 100 years
 Additional forest note: Dunning site class: III
 Additional forest note: Cactus site index: 51

Typical profile:

Layer 1--0 to 3 inches; clay loam
 Layer 2--3 to 24 inches; clay
 Layer 3--24 to 33 inches; sandy clay loam
 Layer 4--33 to 43 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Deadwood very gravelly sandy loam and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Ridges
 Typical vegetation: Forest canopy--Douglas fir, canyon live oak, incense cedar, ponderosa pine, sugar pine, Forest understory--California nutmeg, greenleaf manzanita, pinemat manzanita
 Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

310--Penstock-Deadwood association, 9 to 30 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Mountains

Elevation: 5,200 to 5,600
 Precipitation: 30 to 40 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Penstock very gravelly sandy loam, 9 to 30 percent slopes--65 percent
 Deadwood very gravelly sandy loam, 9 to 30 percent slopes--25 percent
 Rock outcrop, 15 to 30 percent slopes--5 percent
 Scaribou very gravelly loam, 9 to 30 percent slopes--5 percent

Component Description

Penstock very gravelly sandy loam and similar soils

Landform: Mountains
 Slope: 9 to 30 percent
 Parent material: Colluvium derived from metavolcanics and residuum weathered from metavolcanics
 Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--manzanita, snowbrush ceanothus, whitethorn ceanothus, needlegrass, mountain brome
 Site index: Douglas fir--92 at an age base of 100 years
 Site index: Jeffrey pine--87 at an age base of 100 years
 Site index: White fir--58 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 59

Typical profile:

Layer 1--0 to 12 inches; very gravelly sandy loam
 Layer 2--12 to 63 inches; very gravelly loam
 Layer 3--63 to 73 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 61 to 73 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Component Description

Deadwood very gravelly sandy loam and similar soils

Landform: Ridges
 Slope: 9 to 30 percent

Parent material: Colluvium derived from metasedimentary rock and residuum weathered from metasedimentary rock

Typical vegetation: Forest canopy--Douglas fir, canyon live oak, incense cedar, ponderosa pine, sugar pine, Forest understory--pinemat manzanita, greenleaf manzanita, California nutmeg

Site index: Ponderosa pine--40 at an age base of 100 years

Additional forest note: Dunning site class: IV

Additional forest note: Cactus site index: 46

Typical profile:

Layer 1--0 to 9 inches; very gravelly sandy loam
 Layer 2--9 to 16 inches; extremely gravelly sandy loam
 Layer 3--16 to 20 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 0.6 inch
 Present flooding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Ridges
 Ecological site: None assigned

Scaribou very gravelly loam and similar soils

Composition: 0 to 5 percent
 Slope: 9 to 30 percent
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--mountain brome, needlegrass, snowbrush ceanothus, manzanita, whitethorn ceanothus
 Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

311--Penstock-Deadwood-Rock outcrop association, 15 to 50 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Mountains
 Elevation: 5,400 to 5,800
 Precipitation: 30 to 40 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Penstock very gravelly sandy loam, 30 to 50 percent slopes--50 percent
 Deadwood very gravelly sandy loam, 30 to 50 percent slopes--20 percent
 Rock outcrop unweathered bedrock, 15 to 50 percent slopes--15 percent
 Weste very gravelly sandy loam, 30 to 50 percent slopes--8 percent
 Tahand gravelly sandy loam, 30 to 50 percent slopes--7 percent

Component Description

Penstock very gravelly sandy loam and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from metavolcanics and residuum weathered from metavolcanics
 Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--manzanita, snowbrush ceanothus, whitethorn ceanothus, needlegrass, mountain brome
 Site index: Douglas fir--92 at an age base of 100 years
 Site index: Jeffrey pine--87 at an age base of 100 years
 Site index: White fir--58 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 59

Typical profile:

Layer 1--0 to 12 inches; very gravelly sandy loam
 Layer 2--12 to 63 inches; very gravelly loam
 Layer 3--63 to 73 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 61 to 73 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Component Description

Deadwood very gravelly sandy loam and similar soils

Landform: Ridges
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from metasedimentary rock and residuum weathered from metasedimentary rock
 Typical vegetation: Forest canopy--Douglas fir, canyon live oak, incense cedar, ponderosa pine, sugar pine, Forest understory--pinemat manzanita, greenleaf manzanita, California nutmeg
 Site index: Ponderosa pine--40 at an age base of 100 years
 Additional forest note: Dunning site class: IV
 Additional forest note: Cactus site index: 46

Typical profile:

Layer 1--0 to 9 inches; very gravelly sandy loam
 Layer 2--9 to 16 inches; extremely gravelly sandy loam
 Layer 3--16 to 20 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 0.6 inch
 Present flooding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Component Description

Rock outcrop

Landform: Mountains
 Slope: 15 to 50 percent

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Weste very gravelly sandy loam and similar soils**

Composition: 0 to 8 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Jeffrey pine, white fir,
Forest understory--greenleaf manzanita, squawcarpet,
whitethorn ceanothus

Ecological site: None assigned

Tahand and similar soils

Composition: 0 to 7 percent

Slope: 30 to 50 percent

Landform: Mountains

Typical vegetation: Forest canopy--Jeffrey pine, white fir

Ecological site: None assigned

Management

Major uses: Timber production

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

312--Penstock-Scaribou complex, 5 to 30 percent slopes***Map Unit Setting***

MLRA: 22

Landscape: Mountains

Elevation: 5,100 to 6,000

Precipitation: 30 to 40 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Penstock very gravelly loam, 5 to 30 percent slopes--50 percent

Scaribou very gravelly loam, 5 to 30 percent slopes--40 percent

Inville very gravelly loam, 2 to 5 percent slopes--5 percent
Aquolls gravelly sandy loam, 0 to 2 percent slopes--5 percent

Component Description**Penstock stony loam and similar soils**

Landform: Backslopes of mountains

Slope: 5 to 30 percent

Parent material: Colluvium derived from metavolcanics and residuum weathered from metavolcanics

Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--whitethorn ceanothus, snowbrush ceanothus, needlegrass, sharp-leaf snowberry, manzanita

Site index: Douglas fir--92 at an age base of 100 years

Site index: Jeffrey pine--87 at an age base of 100 years

Site index: White fir--58 at an age base of 50 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 59

Typical profile:

Surface rock fragments: About 10 percent stones

Layer 1--0 to 12 inches; very gravelly loam

Layer 2--12 to 63 inches; very gravelly loam

Layer 3--63 to 73 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 61 to 73 inches

Permeability class (root zone): Moderate

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Component Description**Scaribou stony loam and similar soils**

Landform: Backslopes of mountains

Slope: 5 to 30 percent

Parent material: Colluvium derived from metavolcanics and residuum weathered from metavolcanics

Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--whitethorn ceanothus, manzanita, snowbrush ceanothus, sharp-leaf snowberry, needlegrass, mountain brome

Site index: Douglas fir--102 at an age base of 100 years

Site index: Jeffrey pine--96 at an age base of 100 years
 Site index: White fir--57 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 65

Typical profile:

Surface rock fragments: About 10 percent stones
 Layer 1--0 to 6 inches; very gravelly loam
 Layer 2--6 to 17 inches; very cobbly loam
 Layer 3--17 to 60 inches; very cobbly clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: High
 Permeability class (root zone): Moderately slow
 Available water capacity: About 5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Inville very gravelly loam and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 5 percent
 Landform: Basin floors, drainageways
 Typical vegetation: Forest canopy--Jeffrey pine, lodgepole pine, ponderosa pine; Forest understory--mountain brome, whitethorn ceanothus, needlegrass, manzanita, snowbrush ceanothus
 Ecological site: None assigned

Aquolls gravelly sandy loam and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Lakeshores
 Ecological site: None assigned

Management

Major uses: Timber production

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section

"Engineering" section
 "Soil Properties" section

313--Penstock-Scaribou complex, 30 to 50 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Mountains
 Elevation: 4,500 to 6,300
 Precipitation: 30 to 40 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Penstock very gravelly loam, 30 to 50 percent slopes--45 percent
 Scaribou very gravelly loam, 30 to 50 percent slopes--40 percent
 Deadwood very gravelly sandy loam, 30 to 50 percent slopes--8 percent
 Rock outcrop, 30 to 50 percent slopes--7 percent

Component Description

Penstock stony loam and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from metavolcanics and residuum weathered from metavolcanics
 Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--whitethorn ceanothus, snowbrush ceanothus, needlegrass, sharpleaf snowberry, manzanita, mountain brome
 Site index: Douglas fir--92 at an age base of 100 years
 Site index: Jeffrey pine--87 at an age base of 100 years
 Site index: White fir--58 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 59

Typical profile:

Surface rock fragments: About 10 percent stones
 Layer 1--0 to 12 inches; very gravelly loam
 Layer 2--12 to 63 inches; very gravelly loam
 Layer 3--63 to 73 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 61 to 73 inches

Permeability class (root zone): Moderate
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Component Description

Scaribou stony loam and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from metavolcanics and residuum weathered from metavolcanics
 Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--whitethorn ceanothus, manzanita, snowbrush ceanothus, sharpleaf snowberry, needlegrass, mountain brome
 Site index: Douglas fir--102 at an age base of 100 years
 Site index: Jeffrey pine--96 at an age base of 100 years
 Site index: White fir--57 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 65

Typical profile:

Surface rock fragments: About 10 percent stones
 Layer 1--0 to 6 inches; very gravelly loam
 Layer 2--6 to 17 inches; very cobbly loam
 Layer 3--17 to 60 inches; very cobbly clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: Very high
 Permeability class (root zone): Moderately slow
 Available water capacity: About 5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Deadwood very gravelly sandy loam and similar soils

Composition: 0 to 8 percent
 Slope: 30 to 50 percent

Landform: Ridges

Typical vegetation: Forest canopy--Douglas fir, canyon live oak, incense cedar, ponderosa pine, sugar pine, Forest understory--greenleaf manzanita, California nutmeg, pinemat manzanita
 Ecological site: None assigned

Rock outcrop

Composition: 0 to 7 percent
 Slope: 30 to 50 percent
 Landform: Mountains
 Ecological site: None assigned

Management

Major uses: Timber production
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

314--Pequop-Observation association, 15 to 30 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 6,400 to 7,000
 Precipitation: 12 to 16 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Pequop very cobbly loam, 15 to 30 percent slopes--55 percent
 Observation very stony loam, 15 to 30 percent slopes--30 percent
 Glean gravelly sandy loam, 15 to 30 percent slopes--5 percent
 Fredonyer very stony loam, 15 to 30 percent slopes--5 percent
 Madeline very stony loam, 15 to 30 percent slopes--5 percent

Component Description

Pequop very cobbly loam and similar soils

Landform: Toeslopes of mountains
 Slope: 15 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, needlegrass

Typical profile:

Surface rock fragments: About 25 percent cobbles
 Layer 1--0 to 3 inches; very cobbly loam
 Layer 2--3 to 19 inches; very gravelly loam
 Layer 3--19 to 36 inches; very gravelly clay loam
 Layer 4--36 to 50 inches; very cobbly clay loam
 Layer 5--50 to 55 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 50 to 60 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE187CA--Cool stony loam 12-16

Component Description

Observation very stony loam and similar soils

Landform: Backslopes of mountains
 Slope: 15 to 30 percent, north aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, needlegrass

Typical profile:

Surface rock fragments: About 20 percent cobbles, 15 percent stones
 Layer 1--0 to 3 inches; very stony loam
 Layer 2--3 to 9 inches; loam
 Layer 3--9 to 18 inches; clay loam
 Layer 4--18 to 35 inches; gravelly clay
 Layer 5--35 to 45 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Slow

Available water capacity: About 5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE187CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Glean gravelly sandy loam and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 30 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Bluebunch wheatgrass, antelope bitterbrush, needlegrass, mountain big sagebrush, Idaho fescue
 Ecological site: R021XE176CA--Loam 12-16

Fredonyer very stony loam and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Ridges
 Typical vegetation: Idaho fescue, curlleaf mountain mahogany, mountain big sagebrush
 Ecological site: R021XE178CA--Very stony loam 12-16

Madeline very stony loam and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Toeslopes of mountains
 Typical vegetation: Mountain big sagebrush, antelope bitterbrush, Thurber needlegrass, bluebunch wheatgrass
 Ecological site: R021XE179CA--Warm stony loam 12-16

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

315--Pequop-Observation association, 30 to 50 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 6,800 to 7,900

Precipitation: 12 to 16 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Pequop very cobbly loam, 30 to 50 percent slopes--55 percent
 Observation very stony loam, 30 to 50 percent slopes--30 percent
 Puls very cobbly loam, 5 to 9 percent slopes--5 percent
 Madeline very stony loam, 30 to 50 percent slopes--5 percent
 Glean very stony loam, 30 to 50 percent slopes--5 percent

Component Description

Pequop very cobbly loam and similar soils

Landform: Toeslopes of mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, needlegrass

Typical profile:

Surface rock fragments: About 25 percent cobbles, 5 percent stones
 Layer 1--0 to 3 inches; very cobbly loam
 Layer 2--3 to 19 inches; very gravelly loam
 Layer 3--19 to 36 inches; very gravelly clay loam
 Layer 4--36 to 50 inches; very cobbly clay loam
 Layer 5--50 to 55 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 50 to 60 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R021XE187CA--Cool stony loam 12-16

Component Description

Observation very stony loam and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent, north aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, needlegrass

Typical profile:

Surface rock fragments: About 20 percent cobbles, 15 percent stones
 Layer 1--0 to 3 inches; very stony loam
 Layer 2--3 to 9 inches; loam
 Layer 3--9 to 18 inches; clay loam
 Layer 4--18 to 35 inches; gravelly clay
 Layer 5--35 to 45 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R021XE187CA--Cool stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Puls very cobbly loam and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 9 percent
 Landform: Plateaus
 Typical vegetation: Antelope bitterbrush, Idaho fescue, low sagebrush, bluebunch wheatgrass, Thurber needlegrass, bluegrass
 Ecological site: R021XE173CA

Madeline very stony loam and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Thurber needlegrass, antelope bitterbrush, Idaho fescue, mountain big sagebrush, bluebunch wheatgrass
 Ecological site: R021XE174CA--Stony loam 12-16

Glean very stony loam and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent, north aspect
 Landform: Backslopes of mountains

Typical vegetation: Needlegrass, antelope bitterbrush, Idaho fescue, bluebunch wheatgrass, mountain big sagebrush

Ecological site: R021XE174CA--Stony loam 12-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

316--Petescreek-Bucklake-Devada association, 15 to 50 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 5,200 to 6,000

Precipitation: 12 to 16 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Petescreek gravelly loam, 30 to 50 percent slopes--40 percent

Bucklake very cobbly loam, 30 to 50 percent slopes--25 percent

Devada very cobbly loam, 15 to 30 percent slopes--20 percent

Madeline very stony loam, 30 to 50 percent slopes--8 percent

Orhood very stony loam, 15 to 30 percent slopes--7 percent

Component Description

Petescreek gravelly loam and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, needlegrass

Typical profile:

Surface rock fragments: About 5 percent cobbles, 5 percent stones

Layer 1--0 to 10 inches; gravelly loam

Layer 2--10 to 17 inches; gravelly loam

Layer 3--17 to 27 inches; cobbly loam

Layer 4--27 to 60 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE176CA--Loam 12-16

Component Description

Bucklake very cobbly loam and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent, south aspect

Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, rabbitbrush, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 30 percent cobbles

Layer 1--0 to 8 inches; very cobbly loam

Layer 2--8 to 12 inches; gravelly clay loam

Layer 3--12 to 24 inches; gravelly clay

Layer 4--24 to 34 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R021XE179CA--Warm stony loam 12-16

Component Description

Devada very cobbly loam and similar soils

Landform: Backslopes of mountains

Slope: 15 to 30 percent

Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite

Typical vegetation: Bluebunch wheatgrass, low sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 30 percent cobbles
 Layer 1--0 to 7 inches; very cobbly loam
 Layer 2--7 to 15 inches; gravelly clay
 Layer 3--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE173CA--Shallow stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Madeline very stony loam and similar soils

Composition: 0 to 8 percent
 Slope: 30 to 50 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, Idaho fescue, Thurber needlegrass
 Ecological site: R021XE174CA--Stony loam 12-16

Orhood very stony loam and similar soils

Composition: 0 to 7 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of mountains, ridges
 Typical vegetation: Forest canopy--western juniper, Forest understory--Thurber needlegrass, arrowleaf balsamroot, antelope bitterbrush, Lemmon needlegrass, rabbitbrush, mountain big sagebrush, bluebunch wheatgrass, Idaho fescue, Sandberg bluegrass
 Ecological site: R021XE174CA--Stony loam 12-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

317--Petescreek-Devada-Searles association, 15 to 50 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 5,200 to 6,200
 Precipitation: 12 to 16 inches
 Air temperature: 44 to 46 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Petescreek very gravelly loam, 30 to 50 percent slopes--40 percent
 Devada very cobbly loam, 15 to 30 percent slopes--25 percent
 Searles very stony loam, 30 to 50 percent slopes--20 percent
 Rock outcrop, 30 to 50 percent slopes--5 percent
 Orhood very stony loam, 5 to 30 percent slopes--5 percent
 Fredonyer very stony loam, 15 to 30 percent slopes--5 percent

Component Description

Petescreek very gravelly loam and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent, north aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, needlegrass

Typical profile:

Layer 1--0 to 10 inches; very gravelly loam
 Layer 2--10 to 17 inches; gravelly loam
 Layer 3--17 to 27 inches; cobbly loam
 Layer 4--27 to 60 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderate
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R021XE176CA--Loam 12-16

Component Description

Devada very cobbly loam and similar soils

Landform: Backslopes of mountains, ridges
 Slope: 15 to 30 percent, south aspect
 Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite
 Typical vegetation: Bluebunch wheatgrass, low sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15 percent stones
 Layer 1--0 to 7 inches; very cobbly loam
 Layer 2--7 to 15 inches; gravelly clay
 Layer 3--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE173CA--Shallow stony loam 12-16

Component Description

Searles very stony loam and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent, south aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 15 percent cobbles, 10 percent stones
 Layer 1--0 to 13 inches; very stony loam

Layer 2--13 to 29 inches; very cobbly clay loam
 Layer 3--29 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R021XE179CA--Warm stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Mountains
 Ecological site: None assigned

Orhood very stony loam and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 30 percent
 Landform: Backslopes of mountains, ridges
 Typical vegetation: Forest canopy--western juniper, Forest understory--Thurber needlegrass, arrowleaf balsamroot, Sandberg bluegrass, antelope bitterbrush, Idaho fescue, Lemmon needlegrass, rabbitbrush, mountain big sagebrush, bluebunch wheatgrass
 Ecological site: R021XE174CA--Stony loam 12-16

Fredonyer very stony loam and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Ridges
 Typical vegetation: Idaho fescue, curlleaf mountain mahogany, mountain big sagebrush
 Ecological site: R021XE178CA--Very stony loam 12-16

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section

"Engineering" section
 "Soil Properties" section

318--Petescreek-Devada-Searles association, 9 to 30 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 5,200 to 6,200
 Precipitation: 12 to 16 inches
 Air temperature: 44 to 46 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Petescreek gravelly loam, 15 to 30 percent slopes--45 percent
 Devada very cobbly loam, 9 to 30 percent slopes--20 percent
 Searles very stony loam, 9 to 30 percent slopes--20 percent
 Glean gravelly sandy loam, 9 to 15 percent slopes--5 percent
 Orhood very stony loam, 15 to 30 percent slopes--4 percent
 Rubble land, 15 to 30 percent slopes--2 percent
 Rock outcrop, 15 to 30 percent slopes--2 percent
 Hart Camp gravelly loam, 15 to 30 percent slopes--2 percent

Component Description

Petescreek gravelly loam and similar soils

Landform: Backslopes of mountains
 Slope: 15 to 30 percent, north aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, needlegrass

Typical profile:

Layer 1--0 to 10 inches; gravelly loam
 Layer 2--10 to 17 inches; gravelly loam
 Layer 3--17 to 27 inches; cobbly loam
 Layer 4--27 to 60 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Moderate

Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R021XE176CA--Loam 12-16

Component Description

Devada very cobbly loam and similar soils

Landform: Backslopes of mountains, ridges
 Slope: 9 to 30 percent, south aspect
 Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite
 Typical vegetation: Bluebunch wheatgrass, low sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15 percent stones
 Layer 1--0 to 7 inches; very cobbly loam
 Layer 2--7 to 15 inches; gravelly clay
 Layer 3--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE173CA

Component Description

Searles very stony loam and similar soils

Landform: Backslopes of mountains
 Slope: 9 to 30 percent, south aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15 percent stones
 Layer 1--0 to 13 inches; very stony loam
 Layer 2--13 to 29 inches; very cobbly clay loam

Layer 3--29 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE179CA--Warm stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Glean gravelly sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 9 to 15 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Mountain big sagebrush, needlegrass, antelope bitterbrush, Idaho fescue, bluebunch wheatgrass

Ecological site: R021XE176CA--Loam 12-16

Orhood very stony loam and similar soils

Composition: 0 to 4 percent

Slope: 15 to 30 percent

Landform: Backslopes of mountains, ridges

Typical vegetation: Forest canopy--western juniper, Forest understory--Lemmon needlegrass, rabbitbrush, mountain big sagebrush, bluebunch wheatgrass, Idaho fescue, Thurber needlegrass, arrowleaf balsamroot, Sandberg bluegrass, antelope bitterbrush

Ecological site: R021XE174CA

Rubble land

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Mountains

Ecological site: None assigned

Rock outcrop

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Mountains

Ecological site: None assigned

Hart Camp gravelly loam and similar soils

Composition: 0 to 2 percent

Slope: 15 to 30 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Needlegrass, antelope bitterbrush, Idaho fescue, bluebunch wheatgrass, mountain big sagebrush

Ecological site: R021XE176CA--Loam 12-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

319--Petescreek-Fredonyer association, 2 to 30 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 6,200 to 7,000

Precipitation: 12 to 16 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Petescreek gravelly loam, 9 to 30 percent slopes--60 percent

Fredonyer very stony loam, 2 to 15 percent slopes--25 percent

Newlands stony loam, 5 to 30 percent slopes--4 percent

Glean gravelly sandy loam, 5 to 30 percent slopes--4 percent

Observation very stony loam, 9 to 30 percent slopes--3 percent

Rock outcrop, 15 to 30 percent slopes--2 percent

Pequop very cobbly loam, 15 to 30 percent slopes--2 percent

Component Description

Petescreek gravelly loam and similar soils

Landform: Backslopes of mountains

Slope: 9 to 30 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Mountain big sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, needlegrass

Typical profile:

Layer 1--0 to 10 inches; gravelly loam

Layer 2--10 to 17 inches; gravelly loam

Layer 3--17 to 27 inches; cobbly loam
 Layer 4--27 to 60 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R021XE044CA--Cool loam 12-16

Component Description

Fredonyer vey stony loam and similar soils

Landform: Ridges
 Slope: 2 to 15 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Mountain big sagebrush, curleaf mountain mahogany, Idaho fescue

Typical profile:

Surface rock fragments: About 10 percent cobbles, 40 percent stones
 Layer 1--0 to 4 inches; very stony loam
 Layer 2--4 to 12 inches; very gravelly loam
 Layer 3--12 to 28 inches; very cobbly loam
 Layer 4--28 to 32 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE178CA--Very stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Newlands stony loam and similar soils

Composition: 0 to 4 percent
 Slope: 5 to 30 percent, north aspect
 Landform: Toeslopes of mountains
 Typical vegetation: Antelope bitterbrush, Idaho fescue, needlegrass, mountain big sagebrush, bluegrass
 Ecological site: R021XE044CA--Cool loam 12-16

Glean gravelly sandy loam and similar soils

Composition: 0 to 4 percent
 Slope: 5 to 30 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Needlegrass, antelope bitterbrush, Idaho fescue, bluebunch wheatgrass, mountain big sagebrush
 Ecological site: R021XE176CA--Loam 12-16

Observation very stony loam and similar soils

Composition: 0 to 3 percent
 Slope: 9 to 30 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Bluebunch wheatgrass, Idaho fescue, antelope bitterbrush, needlegrass, mountain big sagebrush
 Ecological site: R021XE174CA--Stony loam 12-16

Rock outcrop

Composition: 0 to 2 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of mountains, ridges
 Ecological site: None assigned

Pequop very cobbly loam and similar soils

Composition: 0 to 2 percent
 Slope: 15 to 30 percent
 Landform: Toeslopes of mountains
 Typical vegetation: Mountain big sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, needlegrass, bluebunch wheatgrass
 Ecological site: R021XE187CA--Cool stony loam 12-16

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

320--Petescreek-Fredonyer association, 30 to 50 percent slopes**Map Unit Setting**

MLRA: 21
 Landscape: Mountains
 Elevation: 6,200 to 7,000
 Precipitation: 12 to 16 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Petescreek very gravelly loam, 30 to 50 percent slopes--60 percent
 Fredonyer very stony loam, 30 to 50 percent slopes--25 percent
 Hapgood stony loam, 15 to 30 percent slopes--4 percent
 Rock outcrop, 30 to 50 percent slopes--3 percent
 Pequop very cobbly loam, 30 to 50 percent slopes--3 percent
 Observation very stony loam, 30 to 50 percent slopes--3 percent
 Rubble land, 30 to 50 percent slopes--2 percent

Component Description**Petescreek very gravelly loam and similar soils**

Landform: Backslopes of mountains
 Slope: 30 to 50 percent, north aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Mountain big sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, needlegrass

Typical profile:

Surface rock fragments: About 5 percent cobbles, 25 percent stones
 Layer 1--0 to 10 inches; very gravelly loam
 Layer 2--10 to 17 inches; gravelly loam
 Layer 3--17 to 27 inches; cobbly loam
 Layer 4--27 to 60 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE044CA--Cool loam 12-16

Component Description**Fredonyer very stony loam and similar soils**

Landform: Backslopes of mountains, ridges
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Mountain big sagebrush, curlleaf mountain mahogany, Idaho fescue

Typical profile:

Layer 1--0 to 4 inches; very stony loam
 Layer 2--4 to 12 inches; very gravelly loam
 Layer 3--12 to 28 inches; very cobbly loam
 Layer 4--28 to 32 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R021XE178CA--Very stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Hapgood stony loam and similar soils**

Composition: 0 to 4 percent
 Slope: 15 to 30 percent, north aspect
 Landform: Backslopes of mountains, ridges
 Typical vegetation: Lupine, bluebunch wheatgrass, mountain big sagebrush, arrowleaf balsamroot, basin wildrye, Idaho fescue, antelope bitterbrush, Thurber needlegrass
 Ecological site: R021XE044CA--Cool loam 12-16

Rock outcrop

Composition: 0 to 3 percent
 Slope: 30 to 50 percent
 Landform: Mountains
 Ecological site: None assigned

Pequop very cobbly loam and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent
 Landform: Toeslopes of mountains
 Typical vegetation: Bluebunch wheatgrass, needlegrass,
 antelope bitterbrush, bluegrass, Idaho fescue,
 mountain big sagebrush
 Ecological site: R021XE187CA--Cool stony loam 12-16

Observation very stony loam and similar soils

Composition: 0 to 3 percent
 Slope: 30 to 50 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Needlegrass, antelope bitterbrush,
 Idaho fescue, mountain big sagebrush, bluebunch
 wheatgrass
 Ecological site: R021XE174CA--Stony loam 12-16

Rubble land

Composition: 0 to 2 percent
 Slope: 30 to 50 percent
 Landform: Mountains
 Ecological site: None assigned

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the
 following sections and associated tables in Part II of
 this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

321--Petescreek-Orhood-Fredonyer association, 9 to 30 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 6,000 to 6,500
 Precipitation: 12 to 16 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Petescreek stony loam, 9 to 30 percent slopes--35 percent
 Orhood very stony loam, 9 to 30 percent slopes--25
 percent
 Fredonyer very stony loam, 9 to 30 percent slopes--20
 percent
 Searles very cobbly loam, 15 to 30 percent slopes--4
 percent
 Easte very gravelly sandy loam, 15 to 30 percent slopes--
 4 percent
 Indiano stony fine sandy loam, 9 to 30 percent slopes--4
 percent

Glean very stony loam, 9 to 30 percent slopes--4 percent
 Alomax very stony sandy loam, 15 to 30 percent slopes--4
 percent

Component Description

Petescreek stony loam and similar soils

Landform: Backslopes of mountains
 Slope: 9 to 30 percent, north aspect
 Parent material: Colluvium derived from volcanic rock and
 residuum weathered from volcanic rock
 Typical vegetation: Bluebunch wheatgrass, mountain big
 sagebrush, Idaho fescue, antelope bitterbrush,
 needlegrass

Typical profile:

Surface rock fragments: About 10 percent cobbles, 5
 percent stones
 Layer 1--0 to 10 inches; stony loam
 Layer 2--10 to 17 inches; gravelly loam
 Layer 3--17 to 27 inches; cobbly loam
 Layer 4--27 to 60 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical
 Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40
 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R021XE174CA

Component Description

Orhood very stony loam and similar soils

Landform: Backslopes of mountains
 Slope: 9 to 30 percent, south aspect
 Parent material: Colluvium derived from volcanic rock and
 residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--western juniper,
 Forest understory--bluebunch wheatgrass, mountain
 big sagebrush, rabbitbrush, Lemmon needlegrass,
 Idaho fescue, antelope bitterbrush, Sandberg
 bluegrass, arrowleaf balsamroot, Thurber needlegrass
 Site index: Western juniper--26 at an age base of 50 years

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15
 percent stones
 Layer 1--0 to 4 inches; very stony loam

Layer 2--4 to 9 inches; very cobbly loam
 Layer 3--9 to 19 inches; very cobbly clay loam
 Layer 4--19 to 23 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE174CA--Stony loam 12-16

Component Description

Fredonyer very stony loam and similar soils

Landform: Ridges
 Slope: 9 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Mountain big sagebrush, curleaf mountain mahogany, Idaho fescue

Typical profile:

Surface rock fragments: About 15 percent cobbles, 25 percent stones
 Layer 1--0 to 4 inches; very stony loam
 Layer 2--4 to 12 inches; very gravelly loam
 Layer 3--12 to 28 inches; very cobbly loam
 Layer 4--28 to 38 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE178CA--Very stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Searles very cobbly loam and similar soils

Composition: 0 to 4 percent
 Slope: 15 to 30 percent, south aspect
 Landform: Backslopes of mountains
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, Thurber needlegrass
 Ecological site: R021XE179CA--Warm stony loam 12-16

Easte very gravelly sandy loam and similar soils

Composition: 0 to 4 percent
 Slope: 15 to 30 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--California red fir, white fir; Forest understory--snowbrush ceanothus, whitethorn ceanothus, greenleaf manzanita, needlegrass, other perennial grasses
 Ecological site: None assigned

Indiano stony fine sandy loam and similar soils

Composition: 0 to 4 percent
 Slope: 9 to 30 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Wyoming big sagebrush, Thurber needlegrass, other shrubs, antelope bitterbrush, other perennial grasses, other perennial forbs, basin wildrye, bluebunch wheatgrass
 Ecological site: R023XF082CA--Stony loam 9-12

Glean very stony loam and similar soils

Composition: 0 to 4 percent
 Slope: 9 to 30 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Bluebunch wheatgrass, antelope bitterbrush, Idaho fescue, mountain big sagebrush, needlegrass
 Ecological site: R021XE174CA--Stony loam 12-16

Alomax very stony sandy loam and similar soils

Composition: 0 to 4 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of mountains, ridges
 Typical vegetation: Needlegrass, mountain big sagebrush, antelope bitterbrush, Idaho fescue, bluebunch wheatgrass
 Ecological site: R021XE174CA--Stony loam 12-16

Management

Major uses: Livestock grazing and juniper wood products
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Engineering" section

"Soil Properties" section

322--Petescreek-Searles association, 9 to 30 percent slopes

Map Unit Setting

MLRA: 21
Landscape: Mountains
Elevation: 5,400 to 6,500
Precipitation: 12 to 16 inches
Air temperature: 44 to 46 degrees Fahrenheit
Frost-free period: 60 to 80 days

Composition

Petescreek gravelly loam, 9 to 30 percent slopes--50 percent
Searles very stony loam, 9 to 30 percent slopes--30 percent
Rock outcrop, 15 to 30 percent slopes--10 percent
Orhood very stony loam, 9 to 15 percent slopes--10 percent

Component Description

Petescreek gravelly loam and similar soils

Landform: Backslopes of mountains
Slope: 9 to 30 percent, north aspect
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
Typical vegetation: Mountain big sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, needlegrass

Typical profile:

Layer 1--0 to 10 inches; gravelly loam
Layer 2--10 to 17 inches; gravelly loam
Layer 3--17 to 27 inches; cobbly loam
Layer 4--27 to 60 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
Permeability class (root zone): Moderate
Available water capacity: About 3 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
Ecological site: R021XE044CA--Cool loam 12-16

Component Description

Searles very stony loam and similar soils

Landform: Backslopes of mountains
Slope: 9 to 30 percent, south aspect
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15 percent stones
Layer 1--0 to 8 inches; very stony loam
Layer 2--8 to 40 inches; very cobbly clay loam
Layer 3--40 to 50 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
Permeability class (root zone): Moderately slow
Available water capacity: About 4 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R021XE174CA--Stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 10 percent
Slope: 15 to 30 percent
Landform: Mountains
Ecological site: None assigned

Orhood very stony loam and similar soils

Composition: 0 to 10 percent
Slope: 9 to 15 percent
Landform: Backslopes of mountains
Typical vegetation: Forest canopy--western juniper, Forest understory--mountain big sagebrush, bluebunch wheatgrass, Lemmon needlegrass, antelope bitterbrush, Sandberg bluegrass, arrowleaf balsamroot, Thurber needlegrass, rabbitbrush, Idaho fescue
Ecological site: R021XE174CA--Stony loam 12-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

323--Petescreek-Searles-Orhood association, 9 to 30 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 5,100 to 6,500

Precipitation: 12 to 16 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Petescreek gravelly loam, 9 to 30 percent slopes--45 percent

Searles very stony loam, 15 to 30 percent slopes--25 percent

Orhood very stony loam, 9 to 30 percent slopes--20 percent

Fredonyer very stony loam, 15 to 30 percent slopes--10 percent

Component Description**Petescreek gravelly loam and similar soils**

Landform: Backslopes of mountains

Slope: 9 to 30 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Mountain big sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, needlegrass

Typical profile:

Layer 1--0 to 10 inches; gravelly loam

Layer 2--10 to 17 inches; gravelly loam

Layer 3--17 to 27 inches; cobbly loam

Layer 4--27 to 60 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE044CA--Cool loam 12-16

Component Description**Searles very stony loam and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 30 percent, south aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 15 percent stones, 10 percent cobbles

Layer 1--0 to 13 inches; very stony loam

Layer 2--13 to 29 inches; very cobbly clay loam

Layer 3--29 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE174CA--Stony loam 12-16

Component Description**Orhood very stony loam and similar soils**

Landform: Backslopes of mountains

Slope: 9 to 30 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--western juniper, Forest understory--bluebunch wheatgrass, mountain big sagebrush, rabbitbrush, Lemmon needlegrass, Idaho fescue, antelope bitterbrush, Sandberg bluegrass, arrowleaf balsamroot, Thurber needlegrass
Site index: Western juniper--26 at an age base of 50 years

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15 percent stones

Layer 1--0 to 4 inches; very stony loam

Layer 2--4 to 9 inches; very cobbly loam

Layer 3--9 to 19 inches; very cobbly clay loam

Layer 4--19 to 23 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE174CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Fredonyer very stony loam and similar soils**

Composition: 0 to 10 percent

Slope: 15 to 30 percent

Landform: Ridges

Typical vegetation: Curleaf mountain mahogany, Idaho fescue, mountain big sagebrush

Ecological site: R021XE178CA--Very stony loam 12-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

324--Pit clay, 0 to 2 percent slopes***Map Unit Setting***

MLRA: 21

Landscape: Alluvial plain

Elevation: 5,280 to 5,300

Precipitation: 12 to 14 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Pit clay, 0 to 2 percent slopes--80 percent

Ravendale silty clay, 0 to 2 percent slopes--7 percent

Lakeview loam, 0 to 2 percent slopes--7 percent

Termo silty clay, 0 to 2 percent slopes--6 percent

Component Description**Pit clay and similar soils**

Landform: Flood plains

Slope: 0 to 2 percent

Parent material: Alluvium derived from volcanic rock

Typical vegetation: Western wheatgrass, silver sagebrush, beardless wildrye, Nevada bluegrass

Typical profile:

Layer 1--0 to 24 inches; clay

Layer 2--24 to 37 inches; clay

Layer 3--37 to 60 inches; clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Sodicity: Sodic within 40 inches

Available water capacity: About 10 inches

Present flooding: Occasional

Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 4w-2

Nonirrigated land capability: 4w-2

Ecological site: R023XF092CA--Clay floodplain 9-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Ravendale silty clay, ponded and similar soils**

Composition: 0 to 7 percent

Slope: 0 to 2 percent

Landform: Basin floors

Ecological site: None assigned

Lakeview loam and similar soils

Composition: 0 to 7 percent

Slope: 0 to 2 percent

Landform: Flood plains

Ecological site: None assigned

Termo silty clay and similar soils

Composition: 0 to 6 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Big sagebrush, shadscale, rubber rabbitbrush, basin wildrye, spiny hopsage, Sandberg bluegrass, black greasewood, bottlebrush squirreltail

Ecological site: R023XF089CA--Sodic flat 9-12

Management

Major uses: Irrigated crops, alfalfa hay and livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

325--Pits and Dumps

Map Unit Setting

MLRA: 23

Landscape: Lake plain

Elevation: 4,000 to 5,300

Precipitation: 6 to 14 inches

Air temperature: 47 to 52 degrees Fahrenheit

Frost-free period: 60 to 130 days

Composition

Pits variable, 2 to 15 percent slopes--50 percent

Dumps variable, 2 to 15 percent slopes--40 percent

McConnel gravelly fine sandy loam, 2 to 15 percent slopes--2 percent

Cochran gravelly loam, 2 to 15 percent slopes--2 percent

Badenaugh stony sandy loam, 5 to 15 percent slopes--2 percent

Zorravista sand, 2 to 15 percent slopes--1 percent

Devada very stony loam, 2 to 15 percent slopes--1 percent

Fiddler very stony loam, 5 to 15 percent slopes--1 percent

Toulon very gravelly fine sandy loam, 2 to 15 percent slopes--1 percent

Component Description

Pits

Landform: Lake terraces

Slope: 2 to 15 percent

Interpretive Groups

Nonirrigated land capability: 8

Ecological site: None assigned

Component Description

Dumps

Landform: Lake terraces

Slope: 2 to 15 percent

Interpretive Groups

Nonirrigated land capability: 8

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

McConnel gravelly fine sandy loam and similar soils

Composition: 0 to 2 percent

Slope: 2 to 15 percent

Landform: Fan remnants

Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, Wyoming big sagebrush, yellow rabbitbrush, spiny hopsage, Indian ricegrass, bottlebrush squirreltail

Ecological site: R026XF052CA--Granitic upland 9-12

Cochran gravelly loam and similar soils

Composition: 0 to 2 percent

Slope: 2 to 15 percent

Landform: Lake terraces

Typical vegetation: Antelope bitterbrush, needlegrass, mountain big sagebrush, bluegrass, Idaho fescue

Ecological site: R021XE044CA--Cool loam 12-16

Badenaugh stony sandy loam and similar soils

Composition: 0 to 2 percent

Slope: 5 to 15 percent

Landform: Fan remnants

Typical vegetation: Needlegrass, antelope bitterbrush, Anderson peachbrush, green ephedra, big sagebrush, bluebunch wheatgrass

Ecological site: R026XF052CA--Granitic upland 9-12

Zorravista sand and similar soils

Composition: 0 to 1 percent

Slope: 2 to 15 percent

Landform: Dunes

Typical vegetation: Basin big sagebrush, fourwing saltbush, rubber rabbitbrush, basin wildrye, spiny hopsage, Indian ricegrass, black greasewood, needleandthread, littleleaf horsebrush

Ecological site: R023XG049CA--Sand dunes 6-9

Devada very stony loam and similar soils

Composition: 0 to 1 percent

Slope: 2 to 15 percent

Landform: Mountains

Typical vegetation: Bluegrass, Thurber needlegrass, low sagebrush, bluebunch wheatgrass

Ecological site: R023XF081CA--Shallow stony loam 9-12

Fiddler very stony loam and similar soils

Composition: 0 to 1 percent

Slope: 5 to 15 percent, south aspect

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--western juniper,

Forest understory--rabbitbrush, antelope bitterbrush,
arrowleaf balsamroot, Thurber needlegrass, mountain
big sagebrush, Idaho fescue, bottlebrush squirreltail,
Nevada bluegrass, bluebunch wheatgrass, Sandberg
bluegrass

Ecological site: R021XE174CA

Toulon very gravelly fine sandy loam and similar soils

Composition: 0 to 1 percent

Slope: 2 to 15 percent

Landform: Fan remnants

Typical vegetation: Spiny hopsage, Indian ricegrass,
bottlebrush squirreltail, shadscale

Ecological site: R023XG057CA--Sodic gravelly sand 6-9

Management

Major uses: Sand and gravel pits, refuse dumps and rock quarries

For information about managing this map unit, see the
following sections and associated tables in Part II of
this publication:

"Range" section

"Forest land" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

326--Playas**Map Unit Setting**

MLRA: 23

Landscape: Bolson

Elevation: 4,000 to 5,800

Precipitation: 6 to 14 inches

Air temperature: 47 to 52 degrees Fahrenheit

Frost-free period: 60 to 130 days

Composition

Playas silty clay loam, 0 to 1 percent slopes--90 percent

Epot very fine sandy loam, 0 to 1 percent slopes--3 percent

Calneva silt loam, 0 to 1 percent slopes--3 percent

Biscaro silt loam, 0 to 1 percent slopes--2 percent

Termo silty clay, 0 to 1 percent slopes--2 percent

Component Description**Playas**

Landform: Playas

Slope: 0 to 1 percent

Component Properties and Qualities

Runoff: Negligible

Salinity: Saline within 40 inches

Present ponding: Frequent

Interpretive Groups

Nonirrigated land capability: 8

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics
are in the "Classification of the Soils" section.

Contrasting Inclusions**Epot very fine sandy loam and similar soils**

Composition: 0 to 3 percent

Slope: 0 to 1 percent

Landform: Lake terraces

Typical vegetation: Bud sagebrush, shadscale, black
greasewood, bottlebrush squirreltail

Ecological site: R023XG046CA

Calneva silt loam and similar soils

Composition: 0 to 3 percent

Slope: 0 to 1 percent

Landform: Basin floors

Typical vegetation: Bud sagebrush, shadscale, black
greasewood, bottlebrush squirreltail

Ecological site: R023XG046CA--Sodic flat 6-9

Biscaro silt loam and similar soils

Composition: 0 to 2 percent

Slope: 0 to 1 percent

Landform: Lake terraces

Typical vegetation: Big sagebrush, shadscale, rubber
rabbitbrush, basin wildrye, spiny hopsage, Sandberg
bluegrass, black greasewood, bottlebrush squirreltail

Ecological site: R023XF089CA

Termo silty clay and similar soils

Composition: 0 to 2 percent

Slope: 0 to 1 percent

Landform: Lake terraces

Typical vegetation: Big sagebrush, shadscale, rubber
rabbitbrush, basin wildrye, spiny hopsage, Sandberg
bluegrass, black greasewood, bottlebrush squirreltail

Ecological site: R023XF089CA--Sodic flat 9-12

Management

Major uses: Recreation

For information about managing this map unit, see the
following sections and associated tables in Part II of
this publication:

"Range" section

"Engineering" section

"Soil Properties" section

327--Plinco gravelly sandy loam, 0 to 2 percent slopes***Map Unit Setting***

MLRA: 21

Landscape: Alluvial plain

Elevation: 4,100 to 4,200

Precipitation: 12 to 16 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Plinco gravelly sandy loam, 0 to 2 percent slopes--85 percent

Mottsville gravelly loamy coarse sand, 0 to 2 percent slopes--8 percent

Fluvents stratified very fine sandy loam, 0 to 2 percent slopes--7 percent

Component Description**Plinco gravelly sandy loam and similar soils**

Landform: Alluvial fans

Slope: 0 to 2 percent

Parent material: Alluvium derived from granite

Typical profile:

Layer 1--0 to 5 inches; gravelly sandy loam

Layer 2--5 to 11 inches; sandy loam

Layer 3--11 to 47 inches; gravelly sandy loam

Layer 4--47 to 64 inches; gravelly loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low

Permeability class (root zone): Moderately rapid

Available water capacity: About 6 inches

Present flooding: None

Water table: Present

Natural drainage class: Moderately well drained

Interpretive Groups

Irrigated land capability: 2w-2

Nonirrigated land capability: 4c-2

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Mottsville gravelly loamy coarse sand and similar soils**

Composition: 0 to 8 percent

Slope: 0 to 2 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, antelope bitterbrush, needleandthread, desert peach, desert needlegrass, basin big sagebrush, bottlebrush squirreltail

Ecological site: R026XF051CA--Granitic fan 9-12

Fluvents and similar soils

Composition: 0 to 7 percent

Slope: 0 to 2 percent

Landform: Flood plains

Ecological site: None assigned

Management

Major uses: Irrigated crops, alfalfa hay, pasture and urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

328--Plinco loam, 2 to 9 percent slopes***Map Unit Setting***

MLRA: 21

Landscape: Alluvial plain

Elevation: 4,200 to 4,400

Precipitation: 12 to 16 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Plinco loam, 2 to 9 percent slopes--90 percent

Plinco loam, 5 to 9 percent slopes, extremely stony--10 percent

Component Description**Plinco loam and similar soils**

Landform: Alluvial fans

Slope: 2 to 9 percent

Parent material: Alluvium derived from granite

Typical profile:

Layer 1--0 to 5 inches; loam

Layer 2--5 to 11 inches; sandy loam

Layer 3--11 to 47 inches; gravelly sandy loam

Layer 4--47 to 64 inches; gravelly loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 7 inches
 Present flooding: None
 Water table: Present
 Natural drainage class: Moderately well drained

Interpretive Groups

Irrigated land capability: 3e-1
 Nonirrigated land capability: 4e-1
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Plinco and similar soils**

Composition: 0 to 10 percent
 Slope: 5 to 9 percent
 Landform: Alluvial fans
 Ecological site: None assigned

Management

Major uses: Irrigated crops, alfalfa hay, pasture and urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

329--Puls very cobbly loam, 2 to 9 percent slopes***Map Unit Setting***

MLRA: 21
 Landscape: Plateau
 Elevation: 5,000 to 5,500
 Precipitation: 12 to 16 inches
 Air temperature: 45 to 47 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Puls very cobbly loam, 2 to 9 percent slopes--85 percent
 Devada very cobbly loam, 2 to 9 percent slopes--5 percent
 Rubble land, 5 to 9 percent slopes--4 percent
 Longcreek very cobbly loam, 2 to 9 percent slopes--4 percent
 Aquolls gravelly sandy loam, 2 to 5 percent slopes--2 percent

Component Description**Puls very cobbly loam and similar soils**

Landform: Plateaus
 Slope: 2 to 9 percent
 Parent material: Volcanic rock
 Typical vegetation: Bluebunch wheatgrass, low sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 40 percent cobbles
 Layer 1--0 to 2 inches; very cobbly loam
 Layer 2--2 to 6 inches; clay loam
 Layer 3--6 to 15 inches; silty clay
 Layer 4--15 to 31 inches; indurated
 Layer 5--31 to 35 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Duripan: 10 to 20 inches, Bedrock (lithic): 11 to 40 inches
 Permeability class (root zone): Very slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE173CA--Shallow stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Devada very cobbly loam and similar soils**

Composition: 0 to 5 percent
 Slope: 2 to 9 percent
 Landform: Ridges
 Typical vegetation: Low sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, Thurber needlegrass, bluebunch wheatgrass
 Ecological site: R021XE173CA--Shallow stony loam 12-16

Rubble land

Composition: 0 to 4 percent
 Slope: 5 to 9 percent
 Landform: Plateaus
 Ecological site: None assigned

Longcreek very cobbly loam and similar soils

Composition: 0 to 4 percent

Slope: 2 to 9 percent

Landform: Plateaus

Typical vegetation: Mountain big sagebrush, basin wildrye, antelope bitterbrush, Thurber needlegrass, bluebunch wheatgrass

Ecological site: R023XF082CA--Stony loam 9-12

Aquolls gravelly sandy loam and similar soils

Composition: 0 to 2 percent

Slope: 2 to 5 percent

Landform: Lakeshores

Ecological site: None assigned

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

330--Puls-Ninekar complex, 2 to 9 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Plateau

Elevation: 5,000 to 5,800

Precipitation: 12 to 16 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Puls very stony loam, 2 to 9 percent slopes--55 percent

Ninekar very cobbly silt loam, 2 to 9 percent slopes--30 percent

Devada extremely stony loam, 2 to 9 percent slopes--8 percent

Tunnison very cobbly clay, 2 to 9 percent slopes--7 percent

Component Description

Puls very stony loam and similar soils

Landform: Plateaus

Slope: 2 to 9 percent

Parent material: Volcanic rock

Typical vegetation: Bluebunch wheatgrass, low sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 10 percent cobbles, 30 percent stones

Layer 1--0 to 2 inches; very stony loam

Layer 2--2 to 6 inches; clay loam

Layer 3--6 to 15 inches; silty clay

Layer 4--15 to 31 inches; indurated

Layer 5--31 to 35 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Duripan: 10 to 20 inches,

Bedrock (lithic): 11 to 40 inches

Permeability class (root zone): Very slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE173CA--Shallow stony loam 12-16

Component Description

Ninekar very cobbly silt loam and similar soils

Landform: Plateaus

Slope: 2 to 9 percent

Parent material: Residuum weathered from basalt

Typical vegetation: Bluebunch wheatgrass, low sagebrush, beardless wildrye, Idaho fescue, Nevada bluegrass, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 35 percent cobbles, 5 percent stones

Layer 1--0 to 3 inches; very cobbly silt loam

Layer 2--3 to 6 inches; clay loam

Layer 3--6 to 21 inches; clay

Layer 4--21 to 28 inches; clay loam

Layer 5--28 to 38 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Impermeable

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE173CA--Shallow stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada extremely stony loam and similar soils

Composition: 0 to 8 percent

Slope: 2 to 9 percent

Landform: Ridges

Typical vegetation: Bluebunch wheatgrass, low sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, Thurber needlegrass

Ecological site: R021XE173CA--Shallow stony loam 12-16

Tunnison very cobbly clay and similar soils

Composition: 0 to 7 percent

Slope: 2 to 9 percent

Landform: Plateaus

Typical vegetation: Rubber rabbitbrush, bottlebrush squirreltail, Thurber needlegrass, beardless wildrye, western wheatgrass, littleleaf horsebrush, big sagebrush

Ecological site: R023XF093CA--Shallow clay 9-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

331--Puls-Tunnison complex, 2 to 9 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Plateau

Elevation: 5,000 to 5,500

Precipitation: 12 to 16 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Puls very stony loam, 5 to 9 percent slopes--50 percent

Tunnison very cobbly clay, 2 to 5 percent slopes--35 percent

Horsecamp very cobbly silty clay, 2 to 9 percent slopes--5 percent

Devada very cobbly loam, 2 to 9 percent slopes--5 percent

Loomis very cobbly loam, 5 to 9 percent slopes--3 percent

Rock outcrop, 5 to 9 percent slopes--2 percent

Component Description

Puls very stony loam and similar soils

Landform: Plateaus

Slope: 5 to 9 percent

Parent material: Volcanic rock

Typical vegetation: Bluebunch wheatgrass, low sagebrush, Idaho fescue, bluegrass, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 15 percent cobbles, 25 percent stones

Layer 1--0 to 2 inches; very stony loam

Layer 2--2 to 6 inches; clay loam

Layer 3--6 to 15 inches; silty clay

Layer 4--15 to 31 inches; indurated

Layer 5--31 to 35 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Duripan: 10 to 20 inches,

Bedrock (lithic): 11 to 40 inches

Permeability class (root zone): Very slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE173CA--Shallow stony loam 12-16

Component Description

Tunnison very cobbly clay and similar soils

Landform: Plateaus

Slope: 2 to 5 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Western wheatgrass, big sagebrush, rubber rabbitbrush, beardless wildrye, bottlebrush squirreltail, Thurber needlegrass, littleleaf horsebrush

Typical profile:

Surface rock fragments: About 30 percent cobbles, 5 percent stones

Layer 1--0 to 1 inch; very cobbly clay

Layer 2--1 to 31 inches; clay

Layer 3--31 to 38 inches; weathered bedrock

Layer 4--38 to 48 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 35 inches
 Bedrock (lithic): 30 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF093CA--Shallow clay 9-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Horsecamp very cobbly silty clay and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 9 percent
 Landform: Plateaus
 Typical vegetation: Western wheatgrass, big sagebrush, rubber rabbitbrush, beardless wildrye, bottlebrush squirreltail, Thurber needlegrass, littleleaf horsebrush
 Ecological site: R023XF084CA--Clay upland 9-16

Devada very cobbly loam and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 9 percent
 Landform: Ridges
 Typical vegetation: Thurber needlegrass, antelope bitterbrush, bluegrass, Idaho fescue, low sagebrush, bluebunch wheatgrass
 Ecological site: R021XE173CA--Shallow stony loam 12-16

Loomis very cobbly loam and similar soils

Composition: 0 to 3 percent
 Slope: 5 to 9 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Bluebunch wheatgrass, black sagebrush, Sandberg bluegrass, bottlebrush squirreltail, Thurber needlegrass
 Ecological site: R023XF087CA--Very shallow stony loam 9-12

Rock outcrop

Composition: 0 to 2 percent
 Slope: 5 to 9 percent
 Landform: Plateaus
 Ecological site: None assigned

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Engineering" section
 "Soil Properties" section

332--Quartzburg-Scaribou complex, 50 to 75 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Mountains
 Elevation: 5,400 to 6,800
 Precipitation: 25 to 30 inches
 Air temperature: 44 to 46 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Quartzburg stony loamy sand, 50 to 75 percent slopes--60 percent
 Scaribou very gravelly loam, 50 to 75 percent slopes--30 percent
 Rubble land, 50 to 75 percent slopes--5 percent
 Rock outcrop, 50 to 75 percent slopes--5 percent

Component Description

Quartzburg stony loamy sand and similar soils

Landform: Backslopes of mountains
 Slope: 50 to 75 percent, north aspect
 Parent material: Granite
 Typical vegetation: Forest canopy--Jeffrey pine
 Site index: Jeffrey pine--64 at an age base of 100 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 52

Typical profile:

Surface rock fragments: About 5 percent cobbles, 10 percent stones
 Layer 1--0 to 7 inches; stony loamy sand
 Layer 2--7 to 26 inches; very gravelly loamy coarse sand
 Layer 3--26 to 30 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Rapid
 Available water capacity: About 1.0 inch
 Present flooding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Component Description

Scaribou very gravelly loam and similar soils

Landform: Backslopes of mountains

Slope: 50 to 75 percent

Parent material: Colluvium derived from metavolcanics and residuum weathered from metavolcanics

Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--whitethorn ceanothus, manzanita, snowbrush ceanothus, needlegrass, mountain brome

Site index: Jeffrey pine--96 at an age base of 100 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 65

Typical profile:

Layer 1--0 to 12 inches; very gravelly loam

Layer 2--12 to 40 inches; very gravelly clay loam

Layer 3--40 to 60 inches; very gravelly clay

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 2 inches thick

Runoff: Very high

Permeability class (root zone): Slow

Available water capacity: About 5 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rubble land

Composition: 0 to 5 percent

Slope: 50 to 75 percent

Landform: Mountains

Ecological site: None assigned

Rock outcrop

Composition: 0 to 5 percent

Slope: 50 to 75 percent

Landform: Mountains

Ecological site: None assigned

Management

Major uses: Timber production

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

333--Ravendale silty clay, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Bolson

Elevation: 5,200 to 5,400

Precipitation: 12 to 14 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Ravendale silty clay, 0 to 2 percent slopes--80 percent

Dryvalley silty clay loam, 0 to 2 percent slopes--10 percent

Gerlach silty clay, 2 to 5 percent slopes--10 percent

Component Description

Ravendale silty clay, drained and similar soils

Landform: Basin floors

Slope: 0 to 2 percent

Parent material: Alluvium derived from volcanic rock

Typical vegetation: Western wheatgrass, basin big sagebrush, rubber rabbitbrush, beardless wildrye, Nevada bluegrass

Typical profile:

Layer 1--0 to 16 inches; silty clay

Layer 2--16 to 48 inches; silty clay

Layer 3--48 to 60 inches; silty clay

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Available water capacity: About 9 inches

Present flooding: Rare

Present ponding: Rare

Natural drainage class: Moderately well drained

Interpretive Groups

Irrigated land capability: 4s-2

Nonirrigated land capability: 4s-2

Ecological site: R021XE189CA--Clay fan 12-16

Accessibility Statement

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Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Dryvalley silty clay loam and similar soils

Composition: 0 to 10 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Basin big sagebrush, rubber rabbitbrush, Nevada bluegrass, littleleaf horsebrush

Ecological site: R021XE177CA--Silty flat 12-16

Gerlach silty clay and similar soils

Composition: 0 to 10 percent

Slope: 2 to 5 percent

Landform: Alluvial flats

Typical vegetation: Beardless wildrye, western wheatgrass, big sagebrush, rubber rabbitbrush, bottlebrush squirreltail, littleleaf horsebrush, Thurber needlegrass

Ecological site: R023XF084CA--Clay upland 9-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

334--Ravendale silty clay, 0 to 2 percent slopes, occasionally flooded

Map Unit Setting

MLRA: 23

Landscape: Bolson

Elevation: 5,000 to 5,200

Precipitation: 12 to 14 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Ravendale silty clay, 0 to 2 percent slopes, occasionally flooded--85 percent

Ravendale silty clay, 0 to 2 percent slopes, ponded--5 percent

Longcreek very cobbly loam, 2 to 5 percent slopes--5 percent

Gerlach silty clay, 2 to 5 percent slopes--5 percent

Component Description

Ravendale silty clay and similar soils

Landform: Basin floors

Slope: 0 to 2 percent

Parent material: Alluvium derived from volcanic rock

Typical vegetation: Nevada bluegrass, silver sagebrush, beardless wildrye, western wheatgrass

Typical profile:

Layer 1--0 to 16 inches; silty clay

Layer 2--16 to 48 inches; silty clay

Layer 3--48 to 60 inches; silty clay

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Available water capacity: About 9 inches

Present flooding: Occasional

Present ponding: Occasional

Natural drainage class: Moderately well drained

Interpretive Groups

Irrigated land capability: 4w-2

Nonirrigated land capability: 4w-2

Ecological site: R023XF092CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Ravendale silty clay and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Basin floors

Typical vegetation: Nevada bluegrass, western wheatgrass, silver sagebrush, beardless wildrye

Ecological site: R023XF092CA--Clay floodplain 9-16

Longcreek very cobbly loam and similar soils

Composition: 0 to 5 percent

Slope: 2 to 5 percent

Landform: Plateaus

Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, mountain big sagebrush, basin wildrye, antelope bitterbrush

Ecological site: R023XF082CA--Stony loam 9-12

Gerlach silty clay and similar soils

Composition: 0 to 5 percent

Slope: 2 to 5 percent

Landform: Alluvial flats

Typical vegetation: Thurber needlegrass, bottlebrush squirreltail, beardless wildrye, big sagebrush, western wheatgrass, littleleaf horsebrush, rubber rabbitbrush

Ecological site: R023XF084CA

Management

Major uses: Irrigated crops, alfalfa hay, and livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

335--Ravendale silty clay, 0 to 2 percent slopes, ponded

Map Unit Setting

MLRA: 23

Landscape: Bolson

Elevation: 4,400 to 5,300

Precipitation: 9 to 14 inches

Air temperature: 44 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Ravendale silty clay, 0 to 2 percent slopes--85 percent

Gerlach silty clay, 2 to 5 percent slopes--8 percent

Dryvalley silt loam, 0 to 2 percent slopes--7 percent

Component Description

Ravendale silty clay, ponded and similar soils

Landform: Basin floors

Slope: 0 to 2 percent

Parent material: Alluvium derived from volcanic rock

Typical profile:

Layer 1--0 to 16 inches; silty clay

Layer 2--16 to 48 inches; silty clay

Layer 3--48 to 60 inches; silty clay

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Available water capacity: About 9 inches

Present flooding: None

Present ponding: Rare

Water table: Present

Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 6w

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Gerlach silty clay and similar soils

Composition: 0 to 8 percent

Slope: 2 to 5 percent

Landform: Alluvial flats

Typical vegetation: Western wheatgrass, big sagebrush, rubber rabbitbrush, beardless wildrye, bottlebrush squirreltail, littleleaf horsebrush, Thurber needlegrass

Ecological site: R023XF084CA--Clay upland 9-16

Dryvalley silt loam and similar soils

Composition: 0 to 7 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Rubber rabbitbrush, Nevada bluegrass, littleleaf horsebrush, big sagebrush

Ecological site: R021XE177CA--Silty flat 12-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

336--Ravendale silty clay, saline, 0 to 1 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Alluvial plain

Elevation: 4,410 to 4,430

Precipitation: 9 to 12 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Ravendale silty clay, 0 to 1 percent slopes--85 percent

Termo silty clay, 0 to 1 percent slopes--8 percent

Cleghorn sandy loam, 0 to 1 percent slopes--7 percent

Component Description

Ravendale silty clay, saline and similar soils

Landform: Basin floors

Slope: 0 to 1 percent

Parent material: Alluvium derived from volcanic rock

Typical vegetation: Bottlebrush squirreltail, black greasewood, spiny hopsage, saltbush, big sagebrush

Typical profile:

Layer 1--0 to 16 inches; silty clay
 Layer 2--16 to 48 inches; silty clay
 Layer 3--48 to 60 inches; silty clay

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Permeability class (root zone): Slow
 Available water capacity: About 9 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R023XF085CA--Silty clay flat 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Termo silty clay and similar soils**

Composition: 0 to 8 percent
 Slope: 0 to 1 percent
 Landform: Lake terraces
 Typical vegetation: Big sagebrush, basin wildrye, bottlebrush squirreltail, black greasewood, shadscale, rubber rabbitbrush, Sandberg bluegrass, spiny hopsage
 Ecological site: R023XF089CA--Sodic flat 9-12

Cleghorn sandy loam and similar soils

Composition: 0 to 7 percent
 Slope: 0 to 1 percent
 Landform: Fan remnants
 Typical vegetation: Thurber needlegrass, needleandthread, basin wildrye, Wyoming big sagebrush
 Ecological site: R023XF091CA--Loamy upland 9-12

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

337--Redriver-Gerle complex, 2 to 9 percent slopes***Map Unit Setting***

MLRA: 22
 Landscape: Plateau
 Elevation: 4,550 to 4,650
 Precipitation: 30 to 40 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Redriver very gravelly sandy loam, 2 to 9 percent slopes--45 percent
 Gerle sandy loam, 2 to 9 percent slopes--35 percent
 Inville very gravelly loam, 2 to 5 percent slopes--10 percent
 Forgay extremely gravelly sandy loam, 0 to 2 percent slopes--10 percent

Component Description**Redriver very gravelly sandy loam and similar soils**

Landform: Backslopes of plateaus
 Slope: 2 to 9 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, white fir; Forest understory--whitethorn ceanothus, squawcarpet, snowberry, greenleaf manzanita, serviceberry, needlegrass
 Site index: Jeffrey pine--100 at an age base of 100 years
 Site index: White fir--51 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 67

Typical profile:

Layer 1--0 to 5 inches; very gravelly sandy loam
 Layer 2--5 to 17 inches; extremely cobbly sandy loam
 Layer 3--17 to 38 inches; extremely gravelly sandy loam
 Layer 4--38 to 42 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 2 inches
 Present flooding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 4e

Ecological site: None assigned

Component Description

Gerle sandy loam and similar soils

Landform: Outwash plains

Slope: 2 to 9 percent

Parent material: Outwash derived from granite

Typical vegetation: Forest canopy--Jeffrey pine,

Forest understory--chinkapin, western brackenfern,
huckleberry oak, currant, whitethorn ceanothus

Site index: Jeffrey pine--105 at an age base of 100 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 68

Typical profile:

Layer 1--0 to 13 inches; sandy loam

Layer 2--13 to 36 inches; sandy loam

Layer 3--36 to 60 inches; cobbly sandy loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 2 inches thick

Runoff: Low

Permeability class (root zone): Moderately rapid

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 4e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Inville very gravelly loam and similar soils

Composition: 0 to 10 percent

Slope: 2 to 5 percent

Landform: Basin floors, drainageways

Typical vegetation: Forest canopy--Jeffrey pine, lodgepole pine, ponderosa pine; Forest understory--snowbrush ceanothus, mountain brome, manzanita, whitethorn ceanothus, needlegrass

Ecological site: None assigned

Forgay extremely gravelly sandy loam and similar soils

Composition: 0 to 10 percent

Slope: 0 to 2 percent

Landform: Alluvial fans

Typical vegetation: Forest canopy--Jeffrey pine,

Forest understory--greenleaf manzanita, whitethorn ceanothus, other perennial grasses

Ecological site: None assigned

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Forest land" section

"Engineering" section

"Soil Properties" section

338--Redriver-Weste complex, 2 to 9 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Plateau

Elevation: 4,950 to 5,400

Precipitation: 30 to 40 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Redriver very gravelly sandy loam, 2 to 9 percent slopes--50 percent

Weste very gravelly sandy loam, 2 to 9 percent slopes--30 percent

Woodwest very stony sandy loam, 2 to 5 percent slopes--5 percent

Swainow very gravelly sandy loam, 2 to 9 percent slopes--5 percent

Keddle loam, 0 to 2 percent slopes--5 percent

Inville very gravelly loam, 2 to 5 percent slopes--5 percent

Component Description

Redriver very gravelly sandy loam and similar soils

Landform: Plateaus

Slope: 2 to 9 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, white fir; Forest understory--serviceberry, squawcarpet, needlegrass, snowberry, greenleaf manzanita, whitethorn ceanothus

Site index: Jeffrey pine--100 at an age base of 100 years

Site index: White fir--51 at an age base of 50 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 67

Typical profile:

Layer 1--0 to 3 inches; very gravelly sandy loam
 Layer 2--3 to 19 inches; extremely cobbly sandy loam
 Layer 3--19 to 36 inches; extremely gravelly sandy loam
 Layer 4--36 to 40 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Component Description

Weste very gravelly sandy loam and similar soils

Landform: Plateaus
 Slope: 2 to 9 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, sugar pine, white fir; Forest understory--squawcarpet, greenleaf manzanita, whitethorn ceanothus
 Site index: Jeffrey pine--101 at an age base of 100 years
 Site index: White fir--53 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 70

Typical profile:

Layer 1--0 to 14 inches; very gravelly sandy loam
 Layer 2--14 to 24 inches; very gravelly loam
 Layer 3--24 to 34 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 3 inches thick
 Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderate

Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Woodwest very stony sandy loam and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 5 percent
 Landform: Ridges
 Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--greenleaf manzanita, squawcarpet, rabbitbrush, needlegrass
 Ecological site: None assigned

Swainow very gravelly sandy loam and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 9 percent
 Landform: Plateaus
 Typical vegetation: Forest canopy--Jeffrey pine, ponderosa pine, white fir; Forest understory--mountain brome, manzanita, whitethorn ceanothus, needlegrass, snowbrush ceanothus
 Ecological site: None assigned

Keddie loam and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Alluvial fans
 Ecological site: None assigned

Inville very gravelly loam and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 5 percent
 Landform: Basin floors, drainageways
 Typical vegetation: Forest canopy--Jeffrey pine, lodgepole pine, ponderosa pine; Forest understory--whitethorn ceanothus, needlegrass, manzanita, snowbrush ceanothus, mountain brome
 Ecological site: None assigned

Management

Major uses: Timber production
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section

"Forest land" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

339--Redriver-Woodwest-Wafla complex, 0 to 9 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Plateau
 Elevation: 4,950 to 5,200
 Precipitation: 30 to 40 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Redriver very gravelly sandy loam, 0 to 9 percent slopes--50 percent
 Woodwest very stony sandy loam, 0 to 5 percent slopes--20 percent
 Wafla gravelly sandy loam, 0 to 2 percent slopes--15 percent
 Inville very gravelly loam, 2 to 5 percent slopes--8 percent
 Rock outcrop, 5 to 9 percent slopes--7 percent

Component Description

Redriver stony sandy loam and similar soils

Landform: Backslopes of plateaus
 Slope: 0 to 9 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, white fir; Forest understory--squawcarpet, serviceberry, greenleaf manzanita, whitethorn ceanothus, needlegrass, snowberry
 Site index: Jeffrey pine--85 at an age base of 100 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactos site index: 59

Typical profile:

Surface rock fragments: About 10 percent stones
 Layer 1--0 to 6 inches; very gravelly sandy loam
 Layer 2--6 to 14 inches; extremely cobbly sandy loam
 Layer 3--14 to 28 inches; extremely gravelly sandy loam
 Layer 4--28 to 32 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: High

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: None assigned

Component Description

Woodwest very stony sandy loam and similar soils

Landform: Plateaus
 Slope: 0 to 5 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--greenleaf manzanita, squawcarpet, rabbitbrush, needlegrass
 Site index: Jeffrey pine--78 at an age base of 100 years
 Additional forest note: Dunning site class: III
 Additional forest note: Cactos site index: 52

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15 percent stones
 Layer 1--0 to 9 inches; very stony sandy loam
 Layer 2--9 to 19 inches; extremely cobbly sandy loam
 Layer 3--19 to 29 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low
 Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 1.2 inches
 Present flooding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: None assigned

Component Description

Wafla gravelly sandy loam and similar soils

Landform: Basin floors
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from volcanic rock over residuum weathered from basalt
 Typical vegetation: Forest canopy--Jeffrey pine, lodgepole pine, white fir; Forest understory--wildrye, needlegrass,

whitethorn ceanothus, greenleaf manzanita,
squawcarpet, rabbitbrush

Site index: Jeffrey pine--104 at an age base of 100 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 75

Typical profile:

Layer 1--0 to 13 inches; gravelly sandy loam

Layer 2--13 to 24 inches; very cobbly sandy loam

Layer 3--24 to 35 inches; gravelly loam

Layer 4--35 to 42 inches; very cobbly loam

Layer 5--42 to 52 inches; loam

Layer 6--52 to 62 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: Very low

Depth to restrictive feature: Bedrock (paralithic): 40 to 70 inches

Permeability class (root zone): Moderate

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Inville very gravelly loam and similar soils

Composition: 0 to 8 percent

Slope: 2 to 5 percent

Landform: Basin floors, Drainageways

Typical vegetation: Forest canopy--Jeffrey pine, lodgepole pine, ponderosa pine; Forest understory--mountain brome, whitethorn ceanothus, needlegrass, snowbrush ceanothus, manzanita

Ecological site: None assigned

Rock outcrop

Composition: 0 to 7 percent

Slope: 5 to 9 percent

Landform: Mountains

Ecological site: None assigned

Management

Major uses: Timber production and urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

340--Rices clay loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Lake plain

Elevation: 4,050 to 4,150

Precipitation: 9 to 12 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Rices clay loam, 0 to 2 percent slopes--85 percent

Herjun silt loam, 0 to 2 percent slopes--5 percent

Lakeview loam, 0 to 2 percent slopes--5 percent

Honeylake clay loam, 0 to 1 percent slopes--5 percent

Component Description

Rices clay loam and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Alluvium derived from mixed rocks and lacustrine deposits

Typical profile:

Layer 1--0 to 16 inches; clay loam

Layer 2--16 to 22 inches; clay loam

Layer 3--22 to 65 inches; loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Moderately slow

Sodicity: Sodic within 40 inches

Available water capacity: About 10 inches

Present flooding: Rare

Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 3w-6

Nonirrigated land capability: 6w

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Herjun silt loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Western wheatgrass, alkaligrass, inland saltgrass, basin wildrye, rush, bluegrass, black greasewood

Ecological site: R023XG058CA--Saline-sodic subirrigated 6-16

Lakeview loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Flood plains

Ecological site: None assigned

Honeylake clay loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 1 percent

Landform: Lake terraces

Typical vegetation: Black greasewood, basin wildrye, inland saltgrass, rush, bluegrass, alkaligrass, western wheatgrass

Ecological site: R023XG058CA--Saline-sodic subirrigated 6-16

Management

Major uses: Irrigated grass hay and pasture and urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

341--Rose Creek loam, 0 to 1 percent slopes

Map Unit Setting

MLRA: 26

Landscape: Alluvial plain

Elevation: 4,100 to 4,400

Precipitation: 9 to 12 inches

Air temperature: 49 to 51 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Rose Creek loam, 0 to 1 percent slopes--75 percent

Aquolls gravelly sandy loam, 0 to 1 percent slopes--5 percent

Truckee loam, 0 to 1 percent slopes--5 percent

Plinco gravelly sandy loam, 0 to 1 percent slopes--5 percent

Mottsville gravelly loamy coarse sand, 0 to 1 percent slopes--5 percent

Fortsage fine sandy loam, 0 to 1 percent slopes--5 percent

Component Description

Rose Creek loam and similar soils

Landform: Flood plains

Slope: 0 to 1 percent

Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 5 inches; loam

Layer 2--5 to 60 inches; stratified gravelly sand to silt loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Moderate

Available water capacity: About 8 inches

Present flooding: Occasional

Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 3w-2

Nonirrigated land capability: 6w

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Aquolls gravelly sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 1 percent

Landform: Lakeshores

Ecological site: None assigned

Truckee loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 1 percent

Landform: Flood plains

Ecological site: None assigned

Plinco gravelly sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 1 percent
 Landform: Fans
 Ecological site: None assigned

Mottsville gravelly loamy coarse sand and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 1 percent
 Landform: Alluvial fans
 Typical vegetation: Needleandthread, desert peach, desert needlegrass, Indian ricegrass, antelope bitterbrush, basin big sagebrush, bottlebrush squirreltail
 Ecological site: R026XF051CA--Granitic fan 9-12

Fortsage fine sandy loam and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 1 percent
 Landform: Flood plains
 Ecological site: None assigned

Management

Major uses: Irrigated grass hay and pasture
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

342--Rose Creek loam, sodic, 0 to 2 percent slopes

Map Unit Setting

MLRA: 26
 Landscape: Alluvial plain
 Elevation: 4,100 to 4,300
 Precipitation: 9 to 12 inches
 Air temperature: 49 to 51 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Rose Creek loam, 0 to 2 percent slopes--80 percent
 Truckee loam, 0 to 2 percent slopes--10 percent
 Fortsage fine sandy loam, 0 to 2 percent slopes--10 percent

Component Description

Rose Creek loam, sodic and similar soils

Landform: Flood plains
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 25 inches; loam
 Layer 2--25 to 60 inches; stratified sand to silt loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Permeability class (root zone): Moderate
 Salinity: Saline within 40 inches
 Sodicty: Sodic within 40 inches
 Available water capacity: About 8 inches
 Present flooding: Rare
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 3w-2
 Nonirrigated land capability: 6w
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Truckee loam and similar soils

Composition: 0 to 10 percent
 Slope: 0 to 2 percent
 Landform: Flood plains
 Ecological site: None assigned

Fortsage fine sandy loam and similar soils

Composition: 0 to 10 percent
 Slope: 0 to 2 percent
 Landform: Flood plains
 Ecological site: None assigned

Management

Major uses: Irrigated grass hay and pasture and livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

343--Rubble land-Fiddler association, 15 to 50 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains
 Elevation: 5,200 to 5,800
 Precipitation: 12 to 16 inches
 Air temperature: 44 to 46 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Rubble land fragmental material, 15 to 50 percent slopes--60 percent
 Fiddler very stony loam, 15 to 50 percent slopes--25 percent
 Orhood very stony loam, 15 to 50 percent slopes--8 percent
 Rock outcrop, 30 to 50 percent slopes--7 percent

Component Description

Rubble land

Landform: Escarpments
 Slope: 15 to 50 percent

Component Properties and Qualities

Runoff: Low
 Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8
 Ecological site: None assigned

Component Description

Fiddler very stony loam and similar soils

Landform: Escarpments
 Slope: 15 to 50 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--western juniper, Forest understory--antelope bitterbrush, arrowleaf balsamroot, Thurber needlegrass, mountain big sagebrush, rabbitbrush, bottlebrush squirreltail, Idaho fescue, bluebunch wheatgrass, Nevada bluegrass, Sandberg bluegrass
 Site index: Western juniper--20 at an age base of 50 years

Typical profile:

Surface rock fragments: About 20 percent cobbles, 15 percent stones, 20 percent gravel
 Layer 1--0 to 8 inches; very stony loam
 Layer 2--8 to 14 inches; very cobbly clay loam
 Layer 3--14 to 23 inches; clay
 Layer 4--23 to 28 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE174CA--Stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Orhood very stony loam and similar soils

Composition: 0 to 8 percent
 Slope: 15 to 50 percent
 Landform: Backslopes of mountains, ridges
 Typical vegetation: Forest canopy--western juniper, Forest understory--Idaho fescue, Lemmon needlegrass, Sandberg bluegrass, rabbitbrush, mountain big sagebrush, antelope bitterbrush, bluebunch wheatgrass, arrowleaf balsamroot, Thurber needlegrass
 Ecological site: R021XE174CA--Stony loam 12-16

Rock outcrop

Composition: 0 to 7 percent
 Slope: 30 to 50 percent
 Landform: Mountains
 Ecological site: None assigned

Management

Major uses: Livestock grazing and juniper wood products
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

344--Rubble land-Longcreek-Fivesprings association, 30 to 60 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Mountains
 Elevation: 4,500 to 6,000
 Precipitation: 9 to 12 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Rubble land fragmental material, 30 to 60 percent slopes--40 percent
 Longcreek very stony loam, 30 to 60 percent slopes--30 percent
 Fivesprings very stony loam, 30 to 60 percent slopes--20 percent
 McConnel gravelly fine sandy loam, 9 to 15 percent slopes--2 percent
 Riverwash, 5 to 15 percent slopes--2 percent
 Rock outcrop, 40 to 60 percent slopes--2 percent
 Searles very stony loam, 30 to 50 percent slopes--2 percent
 Xerolls loamy coarse sand, 5 to 15 percent slopes--2 percent

Component Description**Rubble land**

Landform: Escarpments
 Slope: 30 to 60 percent

Component Properties and Qualities

Runoff: Low
 Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8
 Ecological site: None assigned

Component Description**Longcreek very stony loam and similar soils**

Landform: Backslopes of mountains
 Slope: 30 to 60 percent, north aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Thurber needlegrass, antelope bitterbrush, mountain big sagebrush, basin wildrye, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15 percent stones
 Layer 1--0 to 3 inches; very stony loam
 Layer 2--3 to 7 inches; very cobbly clay loam
 Layer 3--7 to 18 inches; very cobbly clay
 Layer 4--18 to 28 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
 Permeability class (root zone): Slow

Available water capacity: About 1.5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XF082CA--Stony loam 9-12

Component Description**Fivesprings very stony loam and similar soils**

Landform: Backslopes of mountains
 Slope: 30 to 60 percent, south aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, basin wildrye, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 15 percent cobbles, 20 percent stones
 Layer 1--0 to 3 inches; very stony loam
 Layer 2--3 to 8 inches; very gravelly clay loam
 Layer 3--8 to 23 inches; very gravelly clay
 Layer 4--23 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XF082CA--Stony loam 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**McConnel gravelly fine sandy loam and similar soils**

Composition: 0 to 2 percent
 Slope: 9 to 15 percent
 Landform: Fan remnants
 Typical vegetation: Bottlebrush squirreltail, Sandberg bluegrass, Indian ricegrass, globemallow, needleandthread, Wyoming big sagebrush
 Ecological site: R023XG054CA--Sandy terrace 6-9

Riverwash and similar soils

Composition: 0 to 2 percent
 Slope: 5 to 15 percent
 Landform: Channels
 Ecological site: None assigned

Rock outcrop

Composition: 0 to 2 percent
 Slope: 40 to 60 percent
 Landform: Mountains
 Ecological site: None assigned

Searles very stony loam and similar soils

Composition: 0 to 2 percent
 Slope: 30 to 50 percent, south aspect
 Landform: Backslopes of mountains
 Typical vegetation: Bluebunch wheatgrass, Thurber
 needlegrass, antelope bitterbrush, mountain big
 sagebrush
 Ecological site: R021XE179CA--Warm stony loam 12-16

Xerolls loamy coarse sand and similar soils

Composition: 0 to 2 percent
 Slope: 5 to 15 percent
 Landform: Lakeshores
 Ecological site: None assigned

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the
 following sections and associated tables in Part II of
 this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

345--Rubble land-Rock outcrop complex, 30 to 70 percent slopes**Map Unit Setting**

MLRA: 23
 Landscape: Mountains
 Elevation: 4,600 to 6,800
 Precipitation: 9 to 16 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 60 to 100 days

Composition

Rubble land fragmental material, 30 to 70 percent slopes--
 45 percent
 Rock outcrop unweathered bedrock, 30 to 70 percent
 slopes--40 percent

Fivesprings very stony loam, 30 to 60 percent slopes--4
 percent
 Fiddler very stony loam, 30 to 50 percent slopes--4
 percent
 Longcreek very stony loam, 30 to 50 percent slopes--4
 percent
 Fredonyer very stony loam, 30 to 50 percent slopes--3
 percent

Component Description**Rubble land**

Landform: Escarpments
 Slope: 30 to 70 percent

Component Properties and Qualities

Runoff: Low
 Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8
 Ecological site: None assigned

Component Description**Rock outcrop**

Landform: Escarpments
 Slope: 30 to 70 percent

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics
 are in the "Classification of the Soils" section.

Contrasting Inclusions**Fivesprings very stony loam and similar soils**

Composition: 0 to 4 percent
 Slope: 30 to 60 percent, northwest to north aspects
 Landform: Backslopes of mountains
 Typical vegetation: Basin wildrye, mountain big
 sagebrush, antelope bitterbrush, Thurber needlegrass,
 bluebunch wheatgrass
 Ecological site: R023XF082CA--Stony loam 9-12

Fiddler very stony loam and similar soils

Composition: 0 to 4 percent
 Slope: 30 to 50 percent, south aspect
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--western juniper,
 Forest understory--Thurber needlegrass, arrowleaf

balsamroot, antelope bitterbrush, Idaho fescue, bottlebrush squirreltail, Sandberg bluegrass, Nevada bluegrass, bluebunch wheatgrass, rabbitbrush, mountain big sagebrush

Ecological site: R021XE174CA--Stony loam 12-16

Longcreek very stony loam and similar soils

Composition: 0 to 4 percent

Slope: 30 to 50 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, basin wildrye, antelope bitterbrush, Thurber needlegrass

Ecological site: R023XF082CA--Stony loam 9-12

Fredonyer very stony loam and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent, south aspect

Landform: Backslopes of mountains, ridges

Typical vegetation: Idaho fescue, curleaf mountain mahogany, mountain big sagebrush

Ecological site: R021XE178CA--Very stony loam 12-16

Management

Major uses: Watershed and wildlife habitat

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

346--Rubble land-Weste complex, 5 to 50 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains

Elevation: 5,000 to 7,200

Precipitation: 20 to 30 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Rubble land fragmental material, 5 to 50 percent slopes--60 percent

Weste very stony sandy loam, 5 to 50 percent slopes--20 percent

Gavel gravelly loam, 5 to 30 percent slopes--5 percent

Easte gravelly loam, 5 to 30 percent slopes--7 percent

Scaribou very gravelly loam, 15 to 50 percent slopes--3 percent

Outland very stony loam, 30 to 50 percent slopes--3 percent

Rock outcrop, 30 to 50 percent slopes--2 percent

Component Description

Rubble land

Landform: Mountains

Slope: 5 to 50 percent

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8

Ecological site: None assigned

Component Description

Weste very stony sandy loam and similar soils

Landform: Backslopes of mountains

Slope: 5 to 50 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, white fir,

Forest understory--greenleaf manzanita, whitethorn

ceanothus, squawcarpet

Site index: Jeffrey pine--82 at an age base of 100 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 61

Typical profile:

Surface rock fragments: About 5 percent cobbles, 20 percent stones

Layer 1--0 to 14 inches; very stony sandy loam

Layer 2--14 to 24 inches; very gravelly loam

Layer 3--24 to 34 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Easte gravelly loam and similar soils

Composition: 0 to 7 percent

Slope: 5 to 30 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--white fir,

Forest understory--other perennial grasses, mountain big sagebrush, Idaho fescue, antelope bitterbrush

Ecological site: None assigned

Gavel and similar soils

Composition: 0 to 5 percent

Slope: 5 to 30 percent

Landform: Mountains

Typical vegetation: Forest canopy--Jeffrey pine, western

juniper; Forest understory--curlleaf mountain

mahogany, bottlebrush squirreltail, Idaho fescue,

sedge, Columbia needlegrass, mountain big sagebrush

Ecological site: None assigned

Scaribou very gravelly loam and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Jeffrey pine, white fir,

Forest understory--needlegrass, snowbrush

ceanothus, mountain brome, whitethorn ceanothus,

manzanita

Ecological site: None assigned

Outland very stony loam and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Jeffrey pine,

ponderosa pine, white fir; Forest understory--

snowbrush ceanothus, antelope bitterbrush, greenleaf

manzanita, snowberry, sharp-leaf snowberry,

whitethorn ceanothus, squawcarpet, Sierra chinkapin

Ecological site: None assigned

Rock outcrop

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Mountains

Ecological site: None assigned

Management

Major uses: Timber production

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

347--Saddlerock peat, 0 to 1 percent slopes, ponded

Map Unit Setting

MLRA: 21

Landscape: Alluvial plain

Elevation: 4,010 to 4,800

Precipitation: 9 to 16 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 80 to 130 days

Composition

Saddlerock peat, 0 to 1 percent slopes--80 percent

Saddlerock silty clay, 0 to 1 percent slopes--8 percent

Pit clay, 0 to 1 percent slopes--7 percent

Humboldt silty clay loam, 0 to 1 percent slopes--5 percent

Component Description

Saddlerock peat and similar soils

Landform: Flood plains

Slope: 0 to 1 percent

Parent material: Alluvium derived from volcanic rock

Typical profile:

Layer 1--0 to 6 inches; peat

Layer 2--6 to 12 inches; silty clay

Layer 3--12 to 60 inches; silty clay

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Available water capacity: About 11 inches

Present flooding: None

Present ponding: Occasional

Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 4w-2

Nonirrigated land capability: 5w

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Saddlerock silty clay and similar soils

Composition: 0 to 8 percent

Slope: 0 to 1 percent
 Landform: Flood plains
 Ecological site: None assigned

Pit clay and similar soils

Composition: 0 to 7 percent
 Slope: 0 to 1 percent
 Landform: Flood plains
 Typical vegetation: Western wheatgrass, silver sagebrush,
 Nevada bluegrass, beardless wildrye
 Ecological site: R023XF092CA--Clay floodplain 9-16

Humboldt silty clay loam and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 1 percent
 Landform: Flood plains
 Ecological site: None assigned

Management

Major uses: Wildlife habitat and livestock grazing
 For information about managing this map unit, see the
 following sections and associated tables in Part II of
 this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

348--Saddlerock silty clay, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Alluvial plain
 Elevation: 4,400 to 5,300
 Precipitation: 9 to 16 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 60 to 100 days

Composition

Saddlerock silty clay, 0 to 2 percent slopes--80 percent
 Smocreek silty clay loam, 0 to 2 percent slopes--8 percent
 Saddlerock silty clay, drained, 0 to 2 percent slopes--8
 percent
 Dryvalley silt loam, 0 to 2 percent slopes--4 percent

Component Description

Saddlerock silty clay and similar soils

Landform: Flood plains
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from volcanic rock

Typical profile:

Layer 1--0 to 12 inches; silty clay

Layer 2--12 to 52 inches; silty clay
 Layer 3--52 to 60 inches; clay

See "Chemical Properties of Soils" table and the "Physical
 Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Permeability class (root zone): Slow
 Available water capacity: About 9 inches
 Present flooding: Occasional
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 4w-2
 Nonirrigated land capability: 5w
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics
 are in the "Classification of the Soils" section.

Contrasting Inclusions

Smocreek and similar soils

Composition: 0 to 8 percent
 Slope: 0 to 2 percent
 Landform: Stream terraces
 Typical vegetation: Basin wildrye, basin big sagebrush
 Ecological site: R023XF088CA

Saddlerock silty clay, drained and similar soils

Composition: 0 to 8 percent
 Slope: 0 to 2 percent
 Landform: Stream terraces
 Typical vegetation: Basin wildrye, basin big sagebrush
 Ecological site: R023XF088CA--Loamy bottom 9-16

Dryvalley silt loam and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Littleleaf horsebrush, Nevada
 bluegrass, rubber rabbitbrush, big sagebrush
 Ecological site: R021XE177CA--Silty flat 12-16

Management

Major uses: Livestock grazing and irrigated grass hay and
 pasture
 For information about managing this map unit, see the
 following sections and associated tables in Part II of
 this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

349--Saddlerock silty clay, drained, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Alluvial plain
Elevation: 4,400 to 5,300
Precipitation: 9 to 16 inches
Air temperature: 46 to 48 degrees Fahrenheit
Frost-free period: 60 to 100 days

Composition

Saddlerock silty clay, 0 to 2 percent slopes--80 percent
Keddie loam, 0 to 2 percent slopes--7 percent
Corral sandy loam, 0 to 2 percent slopes--7 percent
Yobe silt loam, 0 to 2 percent slopes--6 percent

Component Description

Saddlerock silty clay, drained and similar soils

Landform: Flood plains
Slope: 0 to 2 percent
Parent material: Alluvium derived from volcanic rock
Typical vegetation: Basin wildrye, basin big sagebrush

Typical profile:

Layer 1--0 to 12 inches; silty clay
Layer 2--12 to 52 inches; silty clay
Layer 3--52 to 60 inches; clay

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
Permeability class (root zone): Slow
Available water capacity: About 9 inches
Present flooding: Occasional
Water table: Present
Natural drainage class: Somewhat poorly drained

Interpretive Groups

Irrigated land capability: 4w-2
Nonirrigated land capability: 6w
Ecological site: R023XF088CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Keddie loam and similar soils

Composition: 0 to 7 percent
Slope: 0 to 2 percent
Landform: Alluvial fans

Ecological site: None assigned

Corral sandy loam and similar soils

Composition: 0 to 7 percent
Slope: 0 to 2 percent
Landform: Rock pediments
Typical vegetation: Thurber needlegrass, needleandthread, basin wildrye, big sagebrush
Ecological site: R023XF091CA

Yobe silt loam and similar soils

Composition: 0 to 6 percent
Slope: 0 to 2 percent
Landform: Lake terraces
Typical vegetation: Bluegrass, western wheatgrass, alkaligrass, black greasewood, inland saltgrass, basin wildrye, rush
Ecological site: R023XG058CA--Saline-sodic subirrigated 6-16

Management

Major uses: Irrigated crops, alfalfa hay and livestock grazing
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" section
"Soil Properties" section

350--Saddlerock-Yobe-Termo complex, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Alluvial plain, bolson
Elevation: 4,400 to 5,300
Precipitation: 9 to 16 inches
Air temperature: 46 to 48 degrees Fahrenheit
Frost-free period: 60 to 100 days

Composition

Saddlerock silty clay, 0 to 2 percent slopes--30 percent
Yobe silt loam, 0 to 1 percent slopes--30 percent
Termo silty clay, 0 to 2 percent slopes--25 percent
Biscaro silt loam, 0 to 2 percent slopes--6 percent
Ravendale silty clay, 0 to 2 percent slopes--5 percent
Calnat sandy loam, 0 to 2 percent slopes--4 percent

Component Description

Saddlerock silty clay and similar soils

Landform: Flood plains
Slope: 0 to 2 percent

Parent material: Alluvium derived from volcanic rock

Typical profile:

Layer 1--0 to 12 inches; silty clay
 Layer 2--12 to 52 inches; silty clay
 Layer 3--52 to 60 inches; clay

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Permeability class (root zone): Slow
 Available water capacity: About 9 inches
 Present flooding: Occasional
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Nonirrigated land capability: 6w
 Ecological site: None assigned

Component Description

Yobe silt loam and similar soils

Landform: Lake terraces
 Slope: 0 to 1 percent
 Parent material: Lacustrine deposits
 Typical vegetation: Western wheatgrass, inland saltgrass, basin wildrye, rush, bluegrass, alkaligrass, black greasewood

Typical profile:

Layer 1--0 to 4 inches; silt loam
 Layer 2--4 to 60 inches; stratified very fine sandy loam to silty clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Permeability class (root zone): Slow
 Salinity: Saline within 40 inches
 Sodicity: Sodic within 40 inches
 Available water capacity: About 8 inches
 Present flooding: Occasional
 Water table: Present
 Natural drainage class: Somewhat poorly drained

Interpretive Groups

Nonirrigated land capability: 6w
 Ecological site: R023XG058CA--Saline-sodic subirrigated 6-16

Component Description

Termo silty clay and similar soils

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from volcanic rock
 Typical vegetation: Bottlebrush squirreltail, black greasewood, Sandberg bluegrass, spiny hopsage, basin wildrye, rubber rabbitbrush, shadscale, big sagebrush

Typical profile:

Layer 1--0 to 3 inches; silty clay
 Layer 2--3 to 27 inches; clay
 Layer 3--27 to 60 inches; silty clay

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Permeability class (root zone): Very slow
 Salinity: Saline within 40 inches
 Sodicity: Sodic within 40 inches
 Available water capacity: About 7 inches
 Present flooding: None
 Present ponding: Occasional
 Water table: Present
 Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 6w
 Ecological site: R023XF089CA--Sodic flat 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Biscaro silt loam and similar soils

Composition: 0 to 6 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Big sagebrush, shadscale, rubber rabbitbrush, basin wildrye, spiny hopsage, Sandberg bluegrass, bottlebrush squirreltail, black greasewood
 Ecological site: R023XF089CA--Sodic flat 9-12

Ravendale silty clay and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Basin floors
 Typical vegetation: Nevada bluegrass, beardless wildrye, silver sagebrush, western wheatgrass
 Ecological site: R023XF092CA--Clay floodplain 9-16

Calnat sandy loam and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Basin wildrye, basin big sagebrush, bottlebrush squirreltail, black greasewood

Ecological site: R023XG048CA--Sodic loam 6-9

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

351--Said gravelly loam, 5 to 30 percent slopes**Map Unit Setting**

MLRA: 22

Landscape: Mountains

Elevation: 5,600 to 6,500

Precipitation: 16 to 20 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Said gravelly loam, 5 to 30 percent slopes--85 percent

Fredonyer very stony loam, 5 to 30 percent slopes--5 percent

Easte very gravelly sandy loam, 5 to 30 percent slopes--5 percent

Ninemile very cobbly loam, 5 to 15 percent slopes--3 percent

Petescreek gravelly loam, 5 to 30 percent slopes--2 percent

Component Description**Said gravelly loam and similar soils**

Landform: Backslopes of mountains

Slope: 5 to 30 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--snowberry, whitethorn ceanothus, mountain big sagebrush, Columbia needlegrass, Idaho fescue, squawcarpet, manzanita

Site index: Jeffrey pine--83 at an age base of 100 years

Site index: White fir--53 at an age base of 50 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 49

Typical profile:

Layer 1--0 to 13 inches; gravelly loam

Layer 2--13 to 26 inches; gravelly loam

Layer 3--26 to 37 inches; very gravelly clay loam

Layer 4--37 to 56 inches; very cobbly clay loam

Layer 5--56 to 66 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 2 inches thick

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Fredonyer very stony loam and similar soils**

Composition: 0 to 5 percent

Slope: 5 to 30 percent

Landform: Ridges

Typical vegetation: Curleaf mountain mahogany, Idaho fescue, mountain big sagebrush

Ecological site: R021XE178CA--Very stony loam 12-16

Easte very gravelly sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 5 to 30 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--California red fir, white fir; Forest understory--whitethorn ceanothus, greenleaf manzanita, needlegrass, snowbrush ceanothus, other perennial grasses

Ecological site: None assigned

Ninemile very cobbly loam and similar soils

Composition: 0 to 3 percent

Slope: 5 to 15 percent

Landform: Backslopes of mountains

Typical vegetation: Low sagebrush, antelope bitterbrush, bluegrass, balsamroot, bottlebrush squirreltail, bluebunch wheatgrass, Thurber needlegrass, Idaho fescue

Ecological site: R021XE173CA--Shallow stony loam 12-16

Petescreek gravelly loam and similar soils

Composition: 0 to 2 percent

Slope: 5 to 30 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Needlegrass, bluegrass, antelope bitterbrush, Idaho fescue, mountain big sagebrush

Ecological site: R021XE044CA--Cool loam 12-16

Management

Major uses: Timber production and livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

352--Said-Fraval complex, 30 to 50 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains

Elevation: 5,800 to 6,600

Precipitation: 16 to 20 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Said gravelly loam, 30 to 50 percent slopes--50 percent

Fraval cobbly loam, 30 to 50 percent slopes--35 percent

Easte very gravelly sandy loam, 30 to 50 percent slopes--8 percent

Deadwood family very gravelly sandy loam, 15 to 30 percent slopes--7 percent

Component Description

Said gravelly loam and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--squawcarpet, whitethorn ceanothus, manzanita, snowberry, Columbia needlegrass, Idaho fescue, mountain big sagebrush

Site index: Jeffrey pine--83 at an age base of 100 years

Site index: White fir--53 at an age base of 50 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 49

Typical profile:

Layer 1--0 to 13 inches; gravelly loam

Layer 2--13 to 26 inches; gravelly loam

Layer 3--26 to 56 inches; very cobbly clay loam

Layer 4--56 to 66 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 2 inches thick

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Component Description

Fraval cobbly loam and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent

Parent material: Colluvium derived from tuff and andesite and residuum weathered from andesite or tuff

Typical vegetation: Forest canopy--Jeffrey pine, Forest understory--mountain big sagebrush, sedge, curleaf mountain mahogany, Idaho fescue, bottlebrush squirreltail, Columbia needlegrass

Site index: Jeffrey pine--73 at an age base of 100 years

Additional forest note: Dunning site class: IV

Additional forest note: Cactus site index: 44

Typical profile:

Layer 1--0 to 14 inches; cobbly loam

Layer 2--14 to 34 inches; very gravelly loam

Layer 3--34 to 40 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 3 inches

Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Easte very gravelly sandy loam and similar soils

Composition: 0 to 8 percent
Slope: 30 to 50 percent, north aspect
Landform: Backslopes of mountains
Typical vegetation: Forest canopy--California red fir, white fir; Forest understory--greenleaf manzanita, needlegrass, other perennial grasses, snowbrush ceanothus, whitethorn ceanothus
Ecological site: None assigned

Deadwood family very gravelly sandy loam and similar soils

Composition: 0 to 7 percent
Slope: 15 to 30 percent
Landform: Ridges
Typical vegetation: Forest canopy--Douglas fir, canyon live oak, incense cedar, ponderosa pine, sugar pine, Forest understory--California nutmeg, greenleaf manzanita, pinemat manzanita
Ecological site: None assigned

Management

Major uses: Timber production and livestock grazing
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Forest land" section
"Engineering" section
"Soil Properties" section

353--Said-Ninemile association, 2 to 30 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Mountains
Elevation: 5,600 to 6,000
Precipitation: 16 to 20 inches
Air temperature: 43 to 45 degrees Fahrenheit
Frost-free period: 60 to 80 days

Composition

Said gravelly loam, 5 to 30 percent slopes--60 percent
Ninemile very cobbly loam, 2 to 9 percent slopes--25 percent
Rock outcrop, 15 to 30 percent slopes--5 percent
Fredonyer very stony loam, 15 to 30 percent slopes--5 percent
Eaglelake very gravelly loam, 2 to 15 percent slopes--5 percent

Component Description

Said gravelly loam and similar soils

Landform: Backslopes of mountains
Slope: 5 to 30 percent
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--squawcarpet, whitethorn ceanothus, mountain big sagebrush, manzanita, Idaho fescue, Columbia needlegrass, snowberry
Site index: Jeffrey pine--83 at an age base of 100 years
Site index: White fir--53 at an age base of 50 years
Additional forest note: Dunning site class: III
Additional forest note: Cactus site index: 49

Typical profile:

Layer 1--0 to 13 inches; gravelly loam
Layer 2--13 to 26 inches; gravelly loam
Layer 3--26 to 56 inches; very cobbly clay loam
Layer 4--56 to 66 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 2 inches thick
Runoff: High
Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
Permeability class (root zone): Moderately slow
Available water capacity: About 6 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
Ecological site: None assigned

Component Description

Ninemile very cobbly loam and similar soils

Landform: Backslopes of mountains
Slope: 2 to 9 percent
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, low sagebrush, balsamroot, Idaho fescue, bluegrass, antelope bitterbrush, bottlebrush squirreltail

Typical profile:

Layer 1--0 to 2 inches; very cobbly loam
 Layer 2--2 to 11 inches; clay
 Layer 3--11 to 18 inches; gravelly clay
 Layer 4--18 to 22 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Permeability class (root zone): Impermeable
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE173CA--Shallow stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Ecological site: None assigned

Fredonyer very stony loam and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Ridges
 Typical vegetation: Curleaf mountain mahogany, mountain big sagebrush, Idaho fescue
 Ecological site: R021XE178CA--Very stony loam 12-16

Eaglelake very gravelly loam and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 15 percent
 Landform: Plateaus
 Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--needlegrass, greenleaf manzanita, whitethorn ceanothus, snowbrush ceanothus, other perennial grasses
 Ecological site: None assigned

Management

Major uses: Timber production, livestock grazing, watershed, wildlife habitat and recreation
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

354--Scaribou very gravelly sandy loam, 5 to 30 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Mountains
 Elevation: 5,200 to 5,400
 Precipitation: 30 to 40 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Scaribou very gravelly sandy loam, 5 to 30 percent slopes--85 percent
 Scaribou very gravelly loam, 15 to 30 percent slopes, very stony--8 percent
 Penstock very gravelly loam, 5 to 15 percent slopes, very stony--7 percent

Component Description

Scaribou very gravelly sandy loam and similar soils
 Landform: Backslopes of mountains
 Slope: 5 to 30 percent
 Parent material: Colluvium derived from metavolcanics and residuum weathered from metavolcanics
 Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--whitethorn ceanothus, manzanita, snowbrush ceanothus, needlegrass, mountain brome
 Site index: Jeffrey pine--96 at an age base of 100 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 65

Typical profile:

Layer 1--0 to 3 inches; very gravelly sandy loam
 Layer 2--3 to 19 inches; very gravelly sandy loam
 Layer 3--19 to 33 inches; very gravelly sandy clay loam
 Layer 4--33 to 60 inches; very gravelly clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 2 inches thick

Runoff: Medium
 Permeability class (root zone): Moderately slow
 Available water capacity: About 5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 4e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Scaribou stony loam and similar soils

Composition: 0 to 8 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--needlegrass, sharpleaf snowberry, snowbrush ceanothus, manzanita, whitethorn ceanothus, mountain brome
 Ecological site: None assigned

Penstock stony loam and similar soils

Composition: 0 to 7 percent
 Slope: 5 to 15 percent
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--whitethorn ceanothus, manzanita, sharpleaf snowberry, needlegrass, snowbrush ceanothus
 Ecological site: None assigned

Management

Major uses: Timber production and livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

355--Scaribou-Penstock-Rock outcrop complex, 50 to 75 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Mountains
 Elevation: 4,500 to 6,000
 Precipitation: 30 to 40 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Scaribou extremely stony loam, 50 to 75 percent slopes--55 percent
 Penstock very stony loam, 50 to 75 percent slopes--20 percent
 Rock outcrop unweathered bedrock, 50 to 75 percent slopes--15 percent
 Rubble land, 50 to 75 percent slopes--5 percent
 Deadwood very gravelly sandy loam, 50 to 75 percent slopes--5 percent

Component Description

Scaribou extremely stony loam and similar soils

Landform: Backslopes of mountains
 Slope: 50 to 75 percent, west aspect
 Parent material: Colluvium derived from metavolcanics and residuum weathered from metavolcanics
 Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--mountain brome, needlegrass, snowbrush ceanothus, manzanita, whitethorn ceanothus
 Site index: Douglas fir--102 at an age base of 100 years
 Site index: Jeffrey pine--96 at an age base of 100 years
 Site index: White fir--57 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 65

Typical profile:

Surface rock fragments: About 20 percent cobbles, 50 percent stones
 Layer 1--0 to 6 inches; extremely stony loam
 Layer 2--6 to 17 inches; very cobbly loam
 Layer 3--17 to 60 inches; very cobbly clay loam
 Layer 4--60 to 70 inches; very gravelly clay

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: Very high
 Permeability class (root zone): Moderately slow
 Available water capacity: About 5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: None assigned

Component Description

Penstock very stony loam and similar soils

Landform: Backslopes of mountains

Slope: 50 to 75 percent, east aspect
 Parent material: Colluvium derived from metavolcanics and residuum weathered from metavolcanics
 Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--mountain brome, manzanita, needlegrass, snowbrush ceanothus, whitethorn ceanothus
 Site index: Douglas fir--92 at an age base of 100 years
 Site index: Jeffrey pine--87 at an age base of 100 years
 Site index: White fir--58 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 59

Typical profile:

Layer 1--0 to 12 inches; very stony loam
 Layer 2--12 to 63 inches; very gravelly loam
 Layer 3--63 to 73 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 61 to 73 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: None assigned

Component Description

Rock outcrop

Landform: Mountains
 Slope: 50 to 75 percent

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rubble land

Composition: 0 to 5 percent

Slope: 50 to 75 percent
 Landform: Mountains
 Ecological site: None assigned

Deadwood very gravelly sandy loam and similar soils

Composition: 0 to 5 percent
 Slope: 50 to 75 percent
 Landform: Ridges
 Typical vegetation: Forest canopy--Douglas fir, canyon live oak, incense cedar, ponderosa pine, sugar pine, Forest understory--greenleaf manzanita, pinemat manzanita, California nutmeg
 Ecological site: None assigned

Management

Major uses: Timber production
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

356--Searles-Devada-Fivesprings association, 2 to 30 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Mountains
 Elevation: 5,000 to 5,500
 Precipitation: 12 to 16 inches
 Air temperature: 44 to 46 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Searles gravelly loam, 9 to 30 percent slopes--35 percent
 Devada very cobbly loam, 2 to 15 percent slopes--25 percent
 Fivesprings very stony loam, 15 to 30 percent slopes--25 percent
 Orhood very stony loam, 15 to 30 percent slopes--8 percent
 Rock outcrop, 15 to 30 percent slopes--7 percent

Component Description

Searles gravelly loam and similar soils

Landform: Backslopes of mountains
 Slope: 9 to 30 percent, north aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Bluebunch wheatgrass, Idaho fescue, antelope bitterbrush, needlegrass

Typical profile:

Surface rock fragments: About 4 percent cobbles
 Layer 1--0 to 13 inches; gravelly loam
 Layer 2--13 to 29 inches; very gravelly sandy clay loam
 Layer 3--29 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R021XE176CA--Loam 12-16

Component Description**Devada very cobbly loam and similar soils**

Landform: Shoulder of mountain
 Slope: 2 to 15 percent
 Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite
 Typical vegetation: Bluebunch wheatgrass, antelope bitterbrush, Thurber needlegrass, low sagebrush, bluegrass, Idaho fescue

Typical profile:

Surface rock fragments: About 15 percent cobbles, 20 percent stones
 Layer 1--0 to 7 inches; very cobbly loam
 Layer 2--7 to 15 inches; gravelly clay
 Layer 3--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE173CA--Shallow stony loam 12-16

Component Description**Fivesprings very stony loam and similar soils**

Landform: Backslopes of mountains
 Slope: 15 to 30 percent, south aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, antelope bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 15 percent cobbles, 20 percent stones
 Layer 1--0 to 3 inches; very stony loam
 Layer 2--3 to 8 inches; very gravelly clay loam
 Layer 3--8 to 23 inches; very gravelly clay
 Layer 4--23 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE179CA--Warm stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Orhood very stony loam and similar soils**

Composition: 0 to 8 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of mountains, ridges
 Typical vegetation: Forest canopy--western juniper, Forest understory--bluebunch wheatgrass, mountain big sagebrush, rabbitbrush, Lemmon needlegrass, Sandberg bluegrass, arrowleaf balsamroot, Idaho fescue, antelope bitterbrush, Thurber needlegrass
 Ecological site: R021XE174CA--Stony loam 12-16

Rock outcrop

Composition: 0 to 7 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Ecological site: None assigned

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

357--Searles-Devada-Rubble land association, 30 to 50 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Mountains

Elevation: 5,200 to 6,000

Precipitation: 12 to 16 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Searles very cobbly loam, 30 to 50 percent slopes--40 percent

Devada very cobbly loam, 30 to 50 percent slopes--25 percent

Rubble land fragmental material, 30 to 50 percent slopes--20 percent

Fivesprings very stony loam, 30 to 50 percent slopes--5 percent

Longcreek very cobbly loam, 30 to 50 percent slopes--5 percent

Fiddler very stony loam, 30 to 50 percent slopes--3 percent

Rock outcrop, 30 to 50 percent slopes--2 percent

Component Description**Searles very cobbly loam and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 50 percent, south aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 20 percent cobbles, 5 percent stones

Layer 1--0 to 13 inches; very cobbly loam

Layer 2--13 to 29 inches; very gravelly clay loam

Layer 3--29 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R021XE179CA

Component Description**Devada very cobbly loam and similar soils**

Landform: Toeslopes of mountains

Slope: 30 to 50 percent

Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite

Typical vegetation: Bluebunch wheatgrass, low sagebrush, bluegrass, Thurber needlegrass

Typical profile:

Surface rock fragments: About 25 percent cobbles, 5 percent stones

Layer 1--0 to 7 inches; very cobbly loam

Layer 2--7 to 15 inches; gravelly clay

Layer 3--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XF081CA--Shallow stony loam 9-12

Component Description**Rubble land**

Landform: Mountains

Slope: 30 to 50 percent

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Fivesprings very stony loam and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent, south aspect

Landform: Backslopes of mountains

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, Thurber needlegrass

Ecological site: R021XE179CA--Warm stony loam 12-16

Longcreek very cobbly loam and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Mountains

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, basin wildrye, antelope bitterbrush, Thurber needlegrass

Ecological site: R023XF082CA--Stony loam 9-12

Fiddler very stony loam and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent, south aspect

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--western juniper, Forest understory--bluebunch wheatgrass, Nevada bluegrass, Sandberg bluegrass, bottlebrush squirreltail, Idaho fescue, mountain big sagebrush, Thurber needlegrass, arrowleaf balsamroot, antelope bitterbrush, rabbitbrush

Ecological site: R021XE174CA--Stony loam 12-16

Rock outcrop

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Mountains

Ecological site: None assigned

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

358--Searles-Glean association, 5 to 30 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Mountains

Elevation: 5,000 to 6,500

Precipitation: 12 to 16 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Searles very stony loam, 9 to 30 percent slopes--50 percent

Glean gravelly sandy loam, 5 to 15 percent slopes--35 percent

Ninemile very stony loam, 5 to 15 percent slopes--5 percent

Madeline very stony loam, 15 to 30 percent slopes--5 percent

Rock outcrop, 15 to 30 percent slopes--3 percent

Rubble land, 15 to 30 percent slopes--2 percent

Component Description

Searles very stony loam and similar soils

Landform: Backslopes of mountains

Slope: 9 to 30 percent, south aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Thurber needlegrass, mountain big sagebrush, antelope bitterbrush, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 15 percent cobbles, 15 percent stones

Layer 1--0 to 13 inches; very stony loam

Layer 2--13 to 29 inches; very cobbly clay loam

Layer 3--29 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE179CA--Warm stony loam 12-16

Component Description**Glean gravelly sandy loam and similar soils**

Landform: Backslopes of mountains

Slope: 5 to 15 percent, north aspect

Parent material: Colluvium derived from volcanic rock

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, needlegrass

Typical profile:

Surface rock fragments: About 3 percent stones

Layer 1--0 to 14 inches; gravelly sandy loam

Layer 2--14 to 44 inches; very gravelly sandy loam

Layer 3--44 to 48 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE176CA--Loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Ninemile very stony loam and similar soils**

Composition: 0 to 5 percent

Slope: 5 to 15 percent

Landform: Backslopes of plateaus, summits of plateaus

Typical vegetation: Bluebunch wheatgrass, low sagebrush, balsamroot, Idaho fescue, bluegrass, antelope bitterbrush, bottlebrush squirreltail, Thurber needlegrass

Ecological site: R021XE173CA--Shallow stony loam 12-16

Madeline very stony loam and similar soils

Composition: 0 to 5 percent

Slope: 15 to 30 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, Thurber needlegrass

Ecological site: R021XE174CA--Stony loam 12-16

Rock outcrop

Composition: 0 to 3 percent

Slope: 15 to 30 percent

Landform: Mountains

Ecological site: None assigned

Rubble land

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Mountains

Ecological site: None assigned

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

359--Searles-Glean association, 30 to 50 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Mountains

Elevation: 5,600 to 6,500

Precipitation: 12 to 16 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Searles very stony loam, 30 to 50 percent slopes--50 percent

Glean gravelly sandy loam, 30 to 50 percent slopes--35 percent

Rubble land, 30 to 50 percent slopes--8 percent

Rock outcrop, 30 to 50 percent slopes--7 percent

Component Description**Searles very stony loam and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 50 percent, south aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, Thurber needlegrass, mountain big sagebrush, antelope bitterbrush

Typical profile:

Surface rock fragments: About 15 percent cobbles, 15 percent stones

Layer 1--0 to 13 inches; very stony loam
 Layer 2--13 to 29 inches; very cobbly clay loam
 Layer 3--29 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R021XE179CA--Warm stony loam 12-16

Component Description

Glean gravelly sandy loam and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent, north aspect
 Parent material: Colluvium derived from volcanic rock
 Typical vegetation: Bluebunch wheatgrass, Idaho fescue, antelope bitterbrush, needlegrass, mountain big sagebrush

Typical profile:

Surface rock fragments: About 3 percent stones
 Layer 1--0 to 14 inches; gravelly sandy loam
 Layer 2--14 to 44 inches; very gravelly sandy loam
 Layer 3--44 to 48 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R021XE176CA--Loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rubble land

Composition: 0 to 8 percent
 Slope: 30 to 50 percent
 Landform: Mountains
 Ecological site: None assigned

Rock outcrop

Composition: 0 to 7 percent
 Slope: 30 to 50 percent
 Landform: Mountains
 Ecological site: None assigned

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

360--Searles-Orhood-Devada association, 5 to 30 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 5,000 to 5,600
 Precipitation: 12 to 16 inches
 Air temperature: 44 to 46 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Searles very stony loam, 5 to 30 percent slopes--35 percent
 Orhood very stony loam, 5 to 30 percent slopes--30 percent
 Devada very cobbly loam, 5 to 30 percent slopes--20 percent
 Bucklake very stony loam, 9 to 30 percent slopes--4 percent
 Fiddler very stony loam, 5 to 30 percent slopes--4 percent
 Fivesprings very stony loam, 15 to 30 percent slopes--3 percent
 Rock outcrop, 15 to 30 percent slopes--2 percent
 Xerolls loamy coarse sand, 5 to 9 percent slopes--2 percent

Component Description

Searles very stony loam and similar soils

Landform: Backslopes of mountains
 Slope: 5 to 30 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Mountain big sagebrush, Thurber needlegrass, antelope bitterbrush, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15 percent stones
 Layer 1--0 to 13 inches; very stony loam
 Layer 2--13 to 29 inches; very cobbly clay loam
 Layer 3--29 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE179CA--Warm stony loam 12-16

Component Description

Orhood very stony loam and similar soils

Landform: Backslopes of mountains, ridges
 Slope: 5 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--western juniper, Forest understory--rabbitbrush, bluebunch wheatgrass, Lemmon needlegrass, antelope bitterbrush, Sandberg bluegrass, arrowleaf balsamroot, Thurber needlegrass, Idaho fescue, mountain big sagebrush
 Site index: Western juniper--26 at an age base of 50 years

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15 percent stones
 Layer 1--0 to 4 inches; very stony loam
 Layer 2--4 to 9 inches; very cobbly loam
 Layer 3--9 to 19 inches; very cobbly clay loam
 Layer 4--19 to 23 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE174CA

Component Description

Devada very cobbly loam and similar soils

Landform: Backslopes of mountains
 Slope: 5 to 30 percent
 Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite
 Typical vegetation: Bluebunch wheatgrass, low sagebrush, bluegrass, Thurber needlegrass

Typical profile:

Surface rock fragments: About 15 percent cobbles, 15 percent stones
 Layer 1--0 to 7 inches; very cobbly loam
 Layer 2--7 to 15 inches; gravelly clay
 Layer 3--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF081CA--Shallow stony loam 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Bucklake very stony loam and similar soils

Composition: 0 to 4 percent
 Slope: 9 to 30 percent
 Landform: Backslopes of mountains
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, rabbitbrush, basin wildrye, antelope bitterbrush, Thurber needlegrass
 Ecological site: R023XF082CA--Stony loam 9-12

Fiddler very stony loam and similar soils

Composition: 0 to 4 percent

Slope: 5 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--western juniper,
Forest understory--bluebunch wheatgrass, Nevada
bluegrass, Sandberg bluegrass, bottlebrush squirreltail,
Idaho fescue, mountain big sagebrush, Thurber
needlegrass, arrowleaf balsamroot, antelope
bitterbrush, rabbitbrush

Ecological site: R021XE174CA--Stony loam 12-16

Fivesprings very stony loam and similar soils

Composition: 0 to 3 percent

Slope: 15 to 30 percent, south aspect

Landform: Backslopes of mountains

Typical vegetation: Bluebunch wheatgrass, mountain big
sagebrush, basin wildrye, antelope bitterbrush, Thurber
needlegrass

Ecological site: R023XF082CA--Stony loam 9-12

Rock outcrop

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Mountains

Ecological site: None assigned

Xerolls loamy coarse sand and similar soils

Composition: 0 to 2 percent

Slope: 5 to 9 percent

Landform: Lakeshores

Ecological site: None assigned

Management

Major uses: Livestock grazing, wildlife habitat, and urban
development

For information about managing this map unit, see the
following sections and associated tables in Part II of
this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

361--Shinnpeak very cobbly loam, 2 to 15 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Fan piedmont

Elevation: 4,500 to 4,800

Precipitation: 9 to 12 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 90 to 100 days

Composition

Shinnpeak very cobbly loam, 2 to 9 percent slopes--85 percent

Loomis very cobbly loam, 5 to 15 percent slopes--10 percent

Xerolls loamy coarse sand, 2 to 5 percent slopes--5 percent

Component Description**Shinnpeak and similar soils**

Landform: Fan remnants

Slope: 2 to 9 percent

Parent material: Alluvium derived from mixed rocks

Typical vegetation: Other perennial forbs, other perennial
grasses, bottlebrush squirreltail, other shrubs, Thurber
needlegrass, black sagebrush, Sandberg bluegrass,
bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 20 percent cobbles, 5 percent stones

Layer 1--0 to 2 inches; very cobbly loam

Layer 2--2 to 13 inches; very gravelly sandy clay loam

Layer 3--13 to 22 inches; indurated

Layer 4--22 to 60 inches; cemented

See "Chemical Properties of Soils" table and the "Physical
Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Duripan: 13 to 20 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 1.1 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XF087CA

Typical soil descriptions including ranges in characteristics
are in the "Classification of the Soils" section.

Contrasting Inclusions**Loomis very cobbly loam and similar soils**

Composition: 0 to 10 percent

Slope: 5 to 15 percent

Landform: Backslopes of plateaus

Typical vegetation: Thurber needlegrass, bluebunch
wheatgrass, black sagebrush, Sandberg bluegrass,
bottlebrush squirreltail

Ecological site: R023XF087CA

Xerolls loamy coarse sand and similar soils

Composition: 0 to 5 percent

Slope: 2 to 5 percent

Landform: Lakeshores

Ecological site: None assigned

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

362--Smocreek silt loam, sodic, 0 to 2 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Alluvial plain

Elevation: 4,050 to 4,100

Precipitation: 9 to 12 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Smocreek silt loam, 0 to 2 percent slopes--90 percent

Saddlerock silty clay, 0 to 2 percent slopes--5 percent

Fluvents stratified very fine sandy loam, 0 to 2 percent slopes--3 percent

Riverwash, 0 to 2 percent slopes--2 percent

Component Description**Smocreek silt loam and similar soils**

Landform: Stream terraces

Slope: 0 to 2 percent

Parent material: Alluvium derived from volcanic rock

Typical profile:

Layer 1--0 to 13 inches; silt loam

Layer 2--13 to 19 inches; silt loam

Layer 3--19 to 60 inches; silty clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 7 inches

Present flooding: Rare

Water table: Present

Natural drainage class: Somewhat poorly drained

Interpretive Groups

Irrigated land capability: 4s-6

Nonirrigated land capability: 6s

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Saddlerock silty clay, drained and similar soils**

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Stream terraces

Typical vegetation: Basin big sagebrush, basin wildrye

Ecological site: R023XF088CA--Loamy bottom 9-16

Fluvents and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Flood plains

Ecological site: None assigned

Riverwash

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Channel

Ecological site: None assigned

Management

Major uses: Livestock grazing and irrigated grass hay and pasture

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

363--Smocreek silty clay loam, 0 to 2 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Lake plain

Elevation: 4,200 to 5,300

Precipitation: 9 to 16 inches

Air temperature: 46 to 50 degrees Fahrenheit

Frost-free period: 60 to 130 days

Composition

Smocreek silty clay loam, 0 to 2 percent slopes--80 percent
 Truckee loam, 0 to 2 percent slopes--5 percent
 Saddlerock silty clay, 0 to 2 percent slopes--5 percent
 Cochran very cobbly loam, 0 to 2 percent slopes--4 percent
 Riverwash, 0 to 2 percent slopes--3 percent
 Springmeyer loam, 0 to 2 percent slopes--3 percent

Component Description**Smocreek and similar soils**

Landform: Stream terraces
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from volcanic rock
 Typical vegetation: Basin big sagebrush, basin wildrye

Typical profile:

Layer 1--0 to 13 inches; silty clay loam
 Layer 2--13 to 19 inches; silt loam
 Layer 3--19 to 60 inches; silty clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Permeability class (root zone): Slow
 Salinity: Saline within 40 inches
 Sodicity: Sodic within 40 inches
 Available water capacity: About 7 inches
 Present flooding: Rare
 Present ponding: None
 Water table: Present
 Natural drainage class: Somewhat poorly drained

Interpretive Groups

Irrigated land capability: 3w-1
 Nonirrigated land capability: 4w-1
 Ecological site: R023XF088CA--Loamy bottom 9-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Truckee loam and similar soils**

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Flood plains
 Ecological site: None assigned

Saddlerock silty clay, drained and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Stream terraces

Typical vegetation: Basin big sagebrush, basin wildrye
 Ecological site: R023XF088CA--Loamy bottom 9-16

Cochran very cobbly loam and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Needlegrass, antelope bitterbrush, Idaho fescue, mountain big sagebrush, bluebunch wheatgrass
 Ecological site: R021XE174CA--Stony loam 12-16

Riverwash

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Channel
 Ecological site: None assigned

Springmeyer loam and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Fans remnants
 Typical vegetation: Big sagebrush, needleandthread, basin wildrye, Thurber needlegrass
 Ecological site: R023XF091CA--Loamy upland 9-12

Management

Major uses: Irrigated crops, alfalfa hay, and livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

364--Southpac very stony loam, 30 to 50 percent slopes**Map Unit Setting**

MLRA: 22
 Landscape: Mountains
 Elevation: 4,800 to 5,000
 Precipitation: 20 to 30 inches
 Air temperature: 48 to 50 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Southpac very stony loam, 30 to 50 percent slopes--85 percent
 Rock outcrop, 30 to 50 percent slopes--8 percent
 Riverwash, 2 to 9 percent slopes--4 percent
 Keddie loam, 0 to 2 percent slopes--3 percent

Component Description**Southpac very stony loam and similar soils**

Landform: Mountains

Slope: 30 to 50 percent

Parent material: Colluvium derived from andesite and residuum weathered from andesite

Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, ponderosa pine; Forest understory--deltoid balsamroot, squawcarpet, wooly wyethia, antelope bitterbrush

Site index: Jeffrey pine--78 at an age base of 100 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 48

Typical profile:

Surface rock fragments: About 5 percent cobbles, 20 percent stones

Layer 1--0 to 7 inches; very stony loam

Layer 2--7 to 35 inches; very gravelly loam

Layer 3--35 to 61 inch; gravelly clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: High

Permeability class (root zone): Moderately slow

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Rock outcrop**

Composition: 0 to 8 percent

Slope: 30 to 50 percent

Landform: Rims

Ecological site: None assigned

Riverwash

Composition: 0 to 4 percent

Slope: 2 to 9 percent

Landform: Channel

Ecological site: None assigned

Keddie loam and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Alluvial fans

Ecological site: None assigned

Management

Major uses: Timber production and livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

365--Springmeyer sandy loam, 0 to 5 percent slopes**Map Unit Setting**

MLRA: 21

Landscape: Fan piedmont

Elevation: 4,000 to 4,600

Precipitation: 9 to 16 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Springmeyer sandy loam, 0 to 5 percent slopes--95 percent

Mottsville gravelly loamy coarse sand, 0 to 5 percent slopes--5 percent

Component Description**Springmeyer sandy loam and similar soils**

Landform: Fans remnants

Slope: 0 to 5 percent

Parent material: Alluvium derived from mixed rocks

Typical vegetation: Other perennial forbs, Thurber needlegrass, other shrubs, basin wildrye, yellow rabbitbrush, bottlebrush squirreltail, other annual forbs, big sagebrush, other perennial grasses, antelope bitterbrush

Typical profile:

Layer 1--0 to 11 inches; sandy loam

Layer 2--11 to 25 inches; clay loam

Layer 3--25 to 60 inches; stratified gravelly loamy sand to sandy clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Permeability class (root zone): Moderately slow
 Available water capacity: About 8 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e-1
 Nonirrigated land capability: 6e
 Ecological site: R021XE186CA--Loamy terrace 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Mottsville gravelly loamy coarse sand and similar soils**

Composition: 0 to 5 percent
 Slope: 0 to 5 percent
 Landform: Fan remnants
 Typical vegetation: Mountain big sagebrush, Indian ricegrass, antelope bitterbrush, needleandthread, bottlebrush squirreltail, other perennial forbs, other shrubs, other perennial grasses
 Ecological site: R021XE181CA--Granitic fan 12-16

Management

Major uses: Irrigated crops, alfalfa hay, livestock grazing, and urban development
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

366--Springmeyer sandy clay loam, 0 to 2 percent slopes***Map Unit Setting***

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 4,050 to 4,320
 Precipitation: 9 to 12 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Springmeyer sandy clay loam, 0 to 2 percent slopes--95 percent
 Standish fine sandy loam, 0 to 2 percent slopes--5 percent

Component Description**Springmeyer sandy clay loam and similar soils**

Landform: Fan remnants
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 15 inches; sandy clay loam
 Layer 2--15 to 46 inches; sandy clay loam
 Layer 3--46 to 60 inches; stratified gravelly loamy sand to sandy clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Permeability class (root zone): Moderately slow
 Available water capacity: About 8 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2c-1
 Nonirrigated land capability: 6c
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Standish fine sandy loam and similar soils**

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Basin wildrye, basin big sagebrush, rabbitbrush, inland saltgrass, black greasewood
 Ecological site: R023XG059CA--Saline-sodic loam 6-12

Management

Major uses: Irrigated crops, alfalfa hay, and urban development
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

367--Stacy fine sandy loam, 0 to 2 percent slopes***Map Unit Setting***

MLRA: 21

Landscape: Alluvial plain, lake plain
 Elevation: 4,020 to 4,030
 Precipitation: 6 to 9 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Stacy fine sandy loam, 0 to 2 percent slopes--85 percent
 Mazuma fine sandy loam, 0 to 2 percent slopes--5 percent
 Highrock fine sandy loam, 0 to 2 percent slopes--5 percent
 McConnel gravelly fine sandy loam, 2 to 5 percent slopes--3 percent
 Wespac fine sandy loam, 0 to 2 percent slopes--2 percent

Component Description

Stacy fine sandy loam and similar soils

Landform: Alluvial fans
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from volcanic rock
 Typical vegetation: Basin wildrye, basin big sagebrush, black greasewood

Typical profile:

Layer 1--0 to 17 inches; fine sandy loam
 Layer 2--17 to 50 inches; stratified sandy loam to loam
 Layer 3--50 to 62 inches; stratified gravelly sand to sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low
 Permeability class (root zone): Moderate
 Available water capacity: About 8 inches
 Present flooding: Rare
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e-2
 Nonirrigated land capability: 6e
 Ecological site: R023XG051CA--Loamy bottom 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Mazuma fine sandy loam and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Black greasewood, bottlebrush squirreltail, seepweed, basin wildrye, shadscale
 Ecological site: R023XG050CA--Saline-sodic flat 6-9

Highrock and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Shadscale, spiny hopsage, black greasewood, bottlebrush squirreltail, basin wildrye
 Ecological site: R023XG047CA--Sodic terrace 6-9

McConnel gravelly fine sandy loam and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 5 percent
 Landform: Fan remnants
 Typical vegetation: Wyoming big sagebrush, needleandthread, Sandberg bluegrass, globemallow, bottlebrush squirreltail, Indian ricegrass
 Ecological site: R023XG054CA--Sandy terrace 6-9

Wespac fine sandy loam and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Basin wildrye, black greasewood, bottlebrush squirreltail, basin big sagebrush
 Ecological site: R023XG048CA--Sodic loam 6-9

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

368--Standish fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Lake plain
 Elevation: 4,000 to 4,300
 Precipitation: 9 to 12 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Standish fine sandy loam, 0 to 2 percent slopes--85 percent
 Standish gravelly loamy coarse sand, 0 to 2 percent slopes--15 percent

Component Description

Standish and similar soils

Landform: Lake terraces
 Slope: 0 to 2 percent

Parent material: Alluvium derived from mixed rocks and lacustrine deposits

Typical vegetation: Basin big sagebrush, rabbitbrush, inland saltgrass, basin wildrye, black greasewood

Typical profile:

Layer 1--0 to 4 inches; fine sandy loam

Layer 2--4 to 7 inches; coarse sandy loam

Layer 3--7 to 16 inches; clay

Layer 4--16 to 27 inches; sandy clay loam

Layer 5--27 to 53 inches; stratified sandy loam to coarse sandy loam

Layer 6--53 to 65 inches; stratified loamy sand to fine sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Permeability class (root zone): Very slow

Sodicity: Sodic within 40 inches

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 4s-6

Nonirrigated land capability: 7s

Ecological site: R023XG059CA--Saline-sodic loam 6-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Standish and similar soils

Composition: 0 to 15 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Rabbitbrush, inland saltgrass, basin wildrye, black greasewood, basin big sagebrush

Ecological site: R023XG059CA--Saline-sodic loam 6-12

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

369--Stiles clay loam, 0 to 5 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Lake plain

Elevation: 4,000 to 4,050

Precipitation: 6 to 9 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Stiles clay loam, 0 to 5 percent slopes--90 percent

Calnat sandy loam, 0 to 2 percent slopes--5 percent

McDermott silt loam, 0 to 5 percent slopes--5 percent

Component Description

Stiles clay loam and similar soils

Landform: Lake terraces

Slope: 0 to 5 percent

Parent material: Lacustrine deposits

Typical vegetation: Basin wildrye, black greasewood, bottlebrush squirreltail, basin big sagebrush

Typical profile:

Layer 1--0 to 5 inches; clay loam

Layer 2--5 to 8 inches; clay

Layer 3--8 to 13 inches; clay loam

Layer 4--13 to 18 inches; sandy loam

Layer 5--18 to 30 inches; sandy loam

Layer 6--30 to 40 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XG048CA--Sodic loam 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Calnat sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Basin big sagebrush, bottlebrush
squirreltail, black greasewood, basin wildrye
Ecological site: R023XG048CA--Sodic loam 6-9

McDermott silt loam and similar soils

Composition: 0 to 5 percent
Slope: 0 to 5 percent
Landform: Lake terraces
Typical vegetation: Basin big sagebrush, basin wildrye,
black greasewood, bottlebrush squirreltail
Ecological site: R023XG048CA--Sodic loam 6-9

Management

Major uses: Livestock grazing
For information about managing this map unit, see the
following sections and associated tables in Part II of
this publication:
"Range" section
"Engineering" section
"Soil Properties" section

370--Sumine-Softscrabble-Hutchley association, 15 to 50 percent slopes

Map Unit Setting

MLRA: 21
Landscape: Mountains
Elevation: 6,200 to 7,100
Precipitation: 12 to 16 inches
Air temperature: 44 to 46 degrees Fahrenheit
Frost-free period: 60 to 80 days

Composition

Sumine very stony loam, 15 to 50 percent slopes--35
percent
Softscrabble very cobbly loam, 15 to 50 percent slopes--
30 percent
Hutchley very stony sandy loam, 15 to 30 percent slopes--
15 percent
Rubble land, 30 to 50 percent slopes--5 percent
Rock outcrop, 30 to 50 percent slopes--5 percent
Graufels bouldery sand, 15 to 50 percent slopes--5
percent
Glean very gravelly sandy loam, 15 to 30 percent slopes--
5 percent

Component Description

Sumine very stony loam and similar soils

Landform: Backslopes of mountains
Slope: 15 to 50 percent, south aspect
Parent material: Colluvium derived from volcanic rock and
residuum weathered from volcanic rock
Typical vegetation: Basin wildrye, Idaho fescue, Thurber
needlegrass, bluebunch wheatgrass, antelope
bitterbrush, mountain big sagebrush

Typical profile:

Surface rock fragments: About 15 percent cobbles, 10
percent stones
Layer 1--0 to 3 inches; very stony loam
Layer 2--3 to 26 inches; very cobbly clay loam
Layer 3--26 to 30 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical
Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (lithic): 20 to 40
inches
Permeability class (root zone): Moderate
Available water capacity: About 3 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
Ecological site: R021XE179CA--Warm stony loam 12-16

Component Description

Softscrabble and similar soils

Landform: Backslopes of mountains
Slope: 15 to 50 percent, north aspect
Parent material: Colluvium derived from basalt and
residuum weathered from basalt
Typical vegetation: Basin wildrye, mountain big
sagebrush, bluebunch wheatgrass, Idaho fescue,
antelope bitterbrush, western needlegrass, Thurber
needlegrass, snowberry

Typical profile:

Surface rock fragments: About 10 percent cobbles, 10
percent stones
Layer 1--0 to 11 inches; very cobbly loam
Layer 2--11 to 20 inches; very cobbly clay loam
Layer 3--20 to 26 inches; very cobbly clay loam
Layer 4--26 to 60 inches; very cobbly clay loam
Layer 5--60 to 64 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical
Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Bedrock (paralithic): 60 to 79
inches
Permeability class (root zone): Moderately slow
Available water capacity: About 5 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R021XE176CA

Component Description**Hutchley very stony sandy loam and similar soils**

Landform: Backslopes of mountains, ridges

Slope: 15 to 30 percent, north aspect

Parent material: Residuum weathered from basalt

Typical vegetation: Low sagebrush, bottlebrush

squirreltail, bluebunch wheatgrass, arrowleaf

balsamroot, longleaf hawksbeard, other shrubs, other

perennial forbs, lupine, Sandberg bluegrass, Nevada

bluegrass, other perennial grasses

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15 percent stones

Layer 1--0 to 9 inches; very stony sandy loam

Layer 2--9 to 14 inches; very gravelly clay loam

Layer 3--14 to 18 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 1.5 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE191CA--Mountain ridges 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Rubble land**

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Mountains

Ecological site: None assigned

Rock outcrop

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Mountains

Ecological site: None assigned

Graufels bouldery sand and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Needlegrass, antelope bitterbrush,

Anderson peachbrush, green ephedra, bluebunch

wheatgrass, Wyoming big sagebrush

Ecological site: R026XF052CA--Granitic upland 9-12

Glean very gravelly sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 15 to 30 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Needlegrass, Idaho fescue, mountain

big sagebrush, antelope bitterbrush, bluebunch

wheatgrass

Ecological site: R021XE176CA--Loam 12-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

371--Susanville silt loam, 0 to 2 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Alluvial plain

Elevation: 4,000 to 4,020

Precipitation: 6 to 9 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Susanville silt loam, 0 to 2 percent slopes--85 percent

Wespac fine sandy loam, 0 to 2 percent slopes--5 percent

Ragtown loam, 0 to 2 percent slopes--5 percent

Calpine sandy loam, 0 to 2 percent slopes--5 percent

Component Description**Susanville silt loam and similar soils**

Landform: Stream terraces

Slope: 0 to 2 percent

Parent material: Alluvium derived from mixed rocks

Typical vegetation: Black greasewood, basin big

sagebrush, basin wildrye

Typical profile:

Layer 1--0 to 10 inches; silt loam

Layer 2--10 to 16 inches; clay
 Layer 3--16 to 39 inches; stratified clay loam to clay
 Layer 4--39 to 62 inches; stratified silt loam to clay

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Permeability class (root zone): Slow
 Salinity: Saline within 40 inches
 Sodicty: Sodic within 40 inches
 Available water capacity: About 8 inches
 Present flooding: Rare
 Water table: Present
 Natural drainage class: Moderately well drained

Interpretive Groups

Irrigated land capability: 4s-6
 Nonirrigated land capability: 7s
 Ecological site: R023XG051CA--Loamy bottom 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Wespac fine sandy loam and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Basin big sagebrush, basin wildrye, black greasewood, bottlebrush squirreltail
 Ecological site: R023XG048CA--Sodic loam 6-9

Ragtown loam and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Black greasewood, spiny hopsage, basin wildrye, shadscale, bottlebrush squirreltail
 Ecological site: R023XG047CA--Sodic terrace 6-9

Calpine sandy loam and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Alluvial fans
 Typical vegetation: Western needlegrass, needleandthread, antelope bitterbrush, beardless wildrye, mountain big sagebrush, Indian ricegrass
 Ecological site: R021XE181CA--Granitic fan 12-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

372--Susanville-Smocreek complex, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Alluvial plain
 Elevation: 4,050 to 4,200
 Precipitation: 9 to 12 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Susanville very fine sandy loam, 0 to 2 percent slopes--50 percent
 Smocreek silt loam, 0 to 2 percent slopes--35 percent
 Playas silty clay, 0 to 1 percent slopes--5 percent
 Yobe silt loam, 0 to 2 percent slopes--5 percent
 Humboldt silty clay, 0 to 2 percent slopes--5 percent

Component Description

Susanville very fine sandy loam and similar soils

Landform: Stream terraces
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 3 inches; very fine sandy loam
 Layer 2--3 to 16 inches; clay
 Layer 3--16 to 39 inches; stratified clay loam to clay
 Layer 4--39 to 62 inches; stratified silt loam to clay

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Permeability class (root zone): Slow
 Salinity: Saline within 40 inches
 Sodicty: Sodic within 40 inches
 Available water capacity: About 8 inches
 Present flooding: Rare
 Water table: Present
 Natural drainage class: Moderately well drained

Interpretive Groups

Irrigated land capability: 4s-6

Nonirrigated land capability: 6s
Ecological site: None assigned

Component Description

Smocreek silt loam and similar soils

Landform: Stream terraces
Slope: 0 to 2 percent
Parent material: Alluvium derived from volcanic rock

Typical profile:

Layer 1--0 to 13 inches; silt loam
Layer 2--13 to 19 inches; silt loam
Layer 3--19 to 60 inches; silty clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
Permeability class (root zone): Slow
Salinity: Saline within 40 inches
Sodicity: Sodic within 40 inches
Available water capacity: About 7 inches
Present flooding: Rare
Water table: Present
Natural drainage class: Somewhat poorly drained

Interpretive Groups

Irrigated land capability: 4s-6
Nonirrigated land capability: 6s
Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Playas silty clay

Composition: 0 to 5 percent
Slope: 0 to 1 percent
Landform: Playas
Ecological site: None assigned

Yobe silt loam and similar soils

Composition: 0 to 5 percent
Slope: 0 to 2 percent
Landform: Lake terraces
Typical vegetation: Black greasewood, western wheatgrass, inland saltgrass, basin wildrye, rush, bluegrass, alkaligrass
Ecological site: R023XG058CA--Saline-sodic subirrigated 6-16

Humboldt silty clay and similar soils

Composition: 0 to 5 percent
Slope: 0 to 2 percent

Landform: Flood plains
Ecological site: None assigned

Management

Major uses: Livestock grazing and irrigated grass hay and pasture
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" section
"Soil Properties" section

373--Swainow-Almanor-Tahand complex, altered, 2 to 30 percent slopes

Map Unit Setting

MLRA: 22
Landscape: Mountains
Elevation: 5,500 to 6,200
Precipitation: 30 to 40 inches
Air temperature: 43 to 45 degrees Fahrenheit
Frost-free period: 60 to 80 days

Composition

Swainow stony sandy loam, 2 to 30 percent slopes--40 percent
Almanor very gravelly sandy loam, 2 to 30 percent slopes--30 percent
Tahand gravelly sandy loam, 2 to 30 percent slopes--20 percent
Whorled very gravelly sandy loam, 15 to 30 percent slopes--10 percent

Component Description

Swainow stony sandy loam and similar soils

Landform: Backslopes of mountains, ridges
Slope: 2 to 30 percent
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
Typical vegetation: Forest canopy--Jeffrey pine, sugar pine, white fir; Forest understory--mountain brome, manzanita, whitethorn ceanothus, needlegrass, snowbrush ceanothus
Site index: Jeffrey pine--94 at an age base of 100 years
Additional forest note: Dunning site class: II
Additional forest note: Cactus site index: 67

Typical profile:

Surface rock fragments: About 5 percent cobbles, 10 percent stones
Layer 1--0 to 3 inches; stony sandy loam
Layer 2--3 to 18 inches; extremely stony sandy loam

Layer 3--18 to 35 inches; very gravelly loam
 Layer 4--35 to 44 inches; extremely cobbly loam
 Layer 5--44 to 54 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The upper 4 to 6 inches of the surface layer has been removed and piled in windrows.
 Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Component Description

Almanor very gravelly sandy loam and similar soils

Landform: Backslopes of mountains, ridges
 Slope: 2 to 30 percent
 Parent material: Volcanic ash and colluvium derived from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--snowberry, serviceberry, pipsissewa, squawcarpet, whitethorn ceanothus, swamp carex, sedge, greenleaf manzanita
 Site index: Jeffrey pine--83 at an age base of 100 years
 Site index: White fir--61 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 66

Typical profile:

Surface rock fragments: About 10 percent cobbles, 15 percent stones
 Layer 1--0 to 5 inches; very gravelly sandy loam
 Layer 2--5 to 17 inches; very gravelly sandy loam
 Layer 3--17 to 40 inches; extremely gravelly sandy loam
 Layer 4--40 to 50 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The upper 4 to 6 inches of the surface layer has been removed and piled in windrows.
 Runoff: Low
 Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Permeability class (root zone): Moderately rapid
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Component Description

Tahand gravelly sandy loam and similar soils

Landform: Backslopes of mountains, ridges
 Slope: 2 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--manzanita, snowbrush ceanothus, needlegrass, mountain brome, whitethorn ceanothus
 Site index: Jeffrey pine--107 at an age base of 100 years
 Site index: White fir--60 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 65

Typical profile:

Layer 1--0 to 3 inches; gravelly sandy loam
 Layer 2--3 to 8 inches; sandy loam
 Layer 3--8 to 15 inches; gravelly loam
 Layer 4--15 to 34 inches; gravelly clay loam
 Layer 5--34 to 46 inches; very gravelly clay loam
 Layer 6--46 to 56 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The upper 4 to 6 inches of the surface layer has been removed and piled in windrows
 Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Whorled very gravelly sandy loam and similar soils

Composition: 0 to 10 percent

Slope: 15 to 30 percent

Landform: Mountains

Typical vegetation: Forest canopy--Jeffrey pine, white fir,
Forest understory--whitethorn ceanothus, needlegrass,
serviceberry, sedge, wildrye, snowberry, squawcarpet

Ecological site: None assigned

Management

Major uses: Timber production

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Forest land" section

"Engineering" section

"Soil Properties" section

374--Swainow-Almanor complex, 15 to 30 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains

Elevation: 5,200 to 6,300

Precipitation: 30 to 40 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Swainow extremely stony sandy loam, 15 to 30 percent slopes--65 percent

Almanor very gravelly sandy loam, 15 to 30 percent slopes--20 percent

Keddie loam, 0 to 2 percent slopes--3 percent

Almanor very gravelly sandy loam, 15 to 30 percent slopes, extremely bouldery--3 percent

Rock outcrop, 15 to 30 percent slopes--3 percent

Whorled very gravelly sandy loam, 15 to 30 percent slopes--4 percent

Tahand gravelly sandy loam, 15 to 30 percent slopes--2 percent

Component Description

Swainow very stony sandy loam and similar soils

Landform: Backslopes of mountains

Slope: 15 to 30 percent, south aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, sugar pine, white fir; Forest understory--whitethorn ceanothus, mountain brome, manzanita, needlegrass, snowbrush ceanothus

Site index: Jeffrey pine--94 at an age base of 100 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 67

Typical profile:

Surface rock fragments: About 5 percent cobbles, 20 percent stones

Layer 1--0 to 3 inches; extremely stony sandy loam

Layer 2--3 to 18 inches; extremely stony sandy loam

Layer 3--18 to 35 inches; very gravelly loam

Layer 4--35 to 44 inches; extremely cobbly loam

Layer 5--44 to 54 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Permeability class (root zone): Moderate

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Component Description

Almanor very gravelly sandy loam and similar soils

Landform: Toeslopes of mountains, backslopes of mountains

Slope: 15 to 30 percent, north aspect

Parent material: Volcanic ash and colluvium derived from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--snowberry, swamp carex, squawcarpet, whitethorn ceanothus, pipsissewa, greenleaf manzanita, serviceberry, sedge

Site index: Jeffrey pine--83 at an age base of 100 years

Site index: White fir--61 at an age base of 50 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 66

Typical profile:

Surface rock fragments: About 5 percent cobbles, 10 percent stones, 20 percent boulders

Layer 1--0 to 5 inches; very gravelly sandy loam

Layer 2--5 to 17 inches; very gravelly sandy loam

Layer 3--17 to 40 inches; extremely gravelly sandy loam

Layer 4--40 to 50 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: Medium
 Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Whorled very gravelly sandy loam and similar soils**

Composition: 0 to 4 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--sedge, whitethorn ceanothus, serviceberry, snowberry, needlegrass, wildrye, squawcarpet
 Ecological site: None assigned

Keddie loam and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Alluvial fans
 Ecological site: None assigned

Almanor very gravelly sandy loam and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 30 percent, north aspect
 Landform: Toeslopes of mountains, backslopes of mountains
 Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--serviceberry, whitethorn ceanothus, snowberry, pipsissewa, squawcarpet, swamp carex, sedge, greenleaf manzanita
 Ecological site: None assigned

Rock outcrop

Composition: 0 to 3 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Ecological site: None assigned

Tahand and similar soils

Composition: 0 to 2 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Typical vegetation: Forest canopy--Jeffrey pine, white fir
 Ecological site: None assigned

Management

Major uses: Timber production
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

375--Swainow-Redriver complex, 2 to 9 percent slopes***Map Unit Setting***

MLRA: 22
 Landscape: Plateau
 Elevation: 4,530 to 4,680
 Precipitation: 30 to 40 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Swainow very gravelly sandy loam, 2 to 9 percent slopes--50 percent
 Redriver very gravelly sandy loam, 2 to 9 percent slopes--35 percent
 Rubble land, 5 to 9 percent slopes--5 percent
 Redriver very gravelly sandy loam, 5 to 9 percent slopes, extremely stony--5 percent
 Woodwest very stony sandy loam, 2 to 5 percent slopes--5 percent

Component Description**Swainow very gravelly sandy loam and similar soils**

Landform: Plateaus
 Slope: 2 to 9 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, ponderosa pine, white fir; Forest understory--needlegrass, snowbrush ceanothus, whitethorn ceanothus, manzanita, mountain brome
 Site index: Jeffrey pine--102 at an age base of 100 years
 Site index: White fir--64 at an age base of 50 years
 Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 67

Typical profile:

Layer 1--0 to 11 inches; very gravelly sandy loam
 Layer 2--11 to 36 inches; very gravelly loam
 Layer 3--36 to 47 inches; extremely cobbly loam
 Layer 4--47 to 51 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 2 inches thick

Runoff: Medium

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Permeability class (root zone): Moderate

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: None assigned

Component Description

Redriver very gravelly sandy loam and similar soils

Landform: Plateaus

Slope: 2 to 9 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, white fir; Forest understory--serviceberry, snowberry, greenleaf manzanita, needlegrass, whitethorn ceanothus, squawcarpet

Site index: Jeffrey pine--100 at an age base of 100 years

Site index: White fir--51 at an age base of 50 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 67

Typical profile:

Layer 1--0 to 6 inches; very gravelly sandy loam
 Layer 2--6 to 14 inches; extremely cobbly sandy loam
 Layer 3--14 to 28 inches; extremely gravelly sandy loam
 Layer 4--28 to 32 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rubble land

Composition: 0 to 5 percent

Slope: 5 to 9 percent

Landform: Plateaus

Ecological site: None assigned

Redriver and similar soils

Composition: 0 to 5 percent

Slope: 5 to 9 percent

Landform: Plateaus

Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, white fir; Forest understory--snowberry, squawcarpet, whitethorn ceanothus, greenleaf manzanita, serviceberry, needlegrass

Ecological site: None assigned

Woodwest very stony sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 2 to 5 percent

Landform: Ridges

Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--greenleaf manzanita, squawcarpet, needlegrass, rabbitbrush

Ecological site: None assigned

Management

Major uses: Timber production and urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

376--Swainow-Tahand complex, 30 to 50 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains

Elevation: 4,700 to 4,800
 Precipitation: 30 to 40 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Swainow stony sandy loam, 30 to 50 percent slopes--55 percent
 Tahand gravelly sandy loam, 30 to 50 percent slopes--35 percent
 Urban land, 15 to 30 percent slopes--5 percent
 Bailey Creek very bouldery loam, 30 to 50 percent slopes--5 percent

Component Description

Swainow stony sandy loam and similar soils

Landform: Mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, sugar pine, white fir
 Site index: Jeffrey pine--94 at an age base of 100 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 67

Typical profile:

Surface rock fragments: About 5 percent cobbles, 20 percent stones
 Layer 1--0 to 3 inches; stony sandy loam
 Layer 2--3 to 18 inches; extremely stony sandy loam
 Layer 3--18 to 35 inches; very gravelly loam
 Layer 4--35 to 44 inches; extremely cobbly loam
 Layer 5--44 to 54 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Component Description

Tahand and similar soils

Landform: Mountains

Slope: 30 to 50 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, white fir
 Site index: Jeffrey pine--107 at an age base of 100 years
 Site index: White fir--60 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 65

Typical profile:

Surface rock fragments: About 5 percent cobbles, 20 percent stones
 Layer 1--0 to 3 inches; gravelly sandy loam
 Layer 2--3 to 8 inches; sandy loam
 Layer 3--8 to 15 inches; gravelly loam
 Layer 4--15 to 34 inches; gravelly clay loam
 Layer 5--34 to 46 inches; very gravelly clay loam
 Layer 6--46 to 56 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Urban land

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Ecological site: None assigned

Bailey Creek very bouldery loam and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--whitethorn ceanothus, needlegrass, manzanita, snowbrush ceanothus, mountain brome
 Ecological site: None assigned

Management

Major uses: Urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

377--Tahand-Baileycreek complex, 5 to 30 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains

Elevation: 4,600 to 5,200

Precipitation: 30 to 40 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Tahand gravelly sandy loam, 5 to 30 percent slopes--45 percent

Baileycreek very gravelly loam, 5 to 30 percent slopes--35 percent

Rock outcrop, 15 to 30 percent slopes--5 percent

Baileycreek very stony loam, 15 to 30 percent slopes--5 percent

Weste very stony sandy loam, 15 to 30 percent slopes--5 percent

Redriver very gravelly sandy loam, 5 to 9 percent slopes--5 percent

Component Description

Tahand and similar soils

Landform: Backslopes of mountains

Slope: 5 to 30 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--snowbrush ceanothus, needlegrass, mountain brome, whitethorn ceanothus, manzanita

Site index: Jeffrey pine--107 at an age base of 100 years

Site index: White fir--60 at an age base of 50 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 65

Typical profile:

Layer 1--0 to 3 inches; gravelly sandy loam

Layer 2--3 to 8 inches; sandy loam

Layer 3--8 to 15 inches; gravelly loam

Layer 4--15 to 34 inches; gravelly clay loam

Layer 5--34 to 46 inches; very gravelly clay loam

Layer 6--46 to 56 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 4s-4

Ecological site: None assigned

Component Description

Baileycreek very gravelly loam and similar soils

Landform: Backslopes of mountains

Slope: 5 to 30 percent

Parent material: Volcanic ash and colluvium derived from basalt and andesite and residuum weathered from basalt or andesite

Typical vegetation: Forest canopy--Jeffrey pine, sugar pine, white fir; Forest understory--snowbrush ceanothus, mountain brome, manzanita, needlegrass, whitethorn ceanothus

Site index: Jeffrey pine--98 at an age base of 100 years

Typical profile:

Layer 1--0 to 9 inches; very gravelly loam

Layer 2--9 to 24 inches; very gravelly loam

Layer 3--24 to 28 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 4s-4

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Mountains

Ecological site: None assigned

Baileycreek very stony loam and similar soils

Composition: 0 to 5 percent

Slope: 15 to 30 percent, south aspect

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Jeffrey pine, white fir,
Forest understory--whitethorn ceanothus, manzanita,
snowbrush ceanothus, mountain brome, needlegrass

Ecological site: None assigned

Weste very stony sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 15 to 30 percent, south aspect

Landform: Backslopes of mountains, plateaus

Typical vegetation: Forest canopy--Jeffrey pine, sugar
pine, white fir; Forest understory--squawcarpet,
greenleaf manzanita, whitethorn ceanothus

Ecological site: None assigned

Redriver very gravelly sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 5 to 9 percent

Landform: Plateaus

Typical vegetation: Forest canopy--Jeffrey pine, incense
cedar, white fir; Forest understory--serviceberry,
greenleaf manzanita, whitethorn ceanothus,
squawcarpet, needlegrass, snowberry

Ecological site: None assigned

Management

Major uses: Timber production and urban development
For information about managing this map unit, see the
following sections and associated tables in Part II of
this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

378--Tahand-Swainow-Almanor complex, 2 to 15 percent slopes

Map Unit Setting

Landscape: Alluvial plain, plateau

Elevation: 5,200 to 6,300

Precipitation: 30 to 40 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Tahand gravelly sandy loam, 2 to 15 percent slopes--35 percent

Swainow stony sandy loam, 2 to 15 percent slopes--30 percent

Almanor very gravelly sandy loam, 2 to 15 percent slopes--20 percent

Rock outcrop, 5 to 15 percent slopes--5 percent

Woodwest very stony sandy loam, 2 to 5 percent slopes--5 percent

Keddie loam, 0 to 2 percent slopes--5 percent

Component Description

Tahand gravelly sandy loam and similar soils

Landform: Ridges

Slope: 2 to 15 percent

Parent material: Colluvium derived from volcanic rock and
residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, white fir,
Forest understory--whitethorn ceanothus, manzanita,
snowbrush ceanothus, mountain brome, needlegrass

Site index: Jeffrey pine--107 at an age base of 100 years

Site index: White fir--60 at an age base of 50 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 65

Typical profile:

Layer 1--0 to 3 inches; gravelly sandy loam

Layer 2--3 to 8 inches; sandy loam

Layer 3--8 to 15 inches; gravelly loam

Layer 4--15 to 34 inches; gravelly clay loam

Layer 5--34 to 46 inches; very gravelly clay loam

Layer 6--46 to 56 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical
Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch
thick

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 40 to 60
inches

Permeability class (root zone): Moderately slow

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: None assigned

Component Description

Swainow stony sandy loam and similar soils

Landform: Ridges

Slope: 2 to 15 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, sugar pine, white fir; Forest understory--manzanita, snowbrush ceanothus, mountain brome, needlegrass, whitethorn ceanothus

Site index: Jeffrey pine--94 at an age base of 100 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 67

Typical profile:

Surface rock fragments: About 10 percent stones

Layer 1--0 to 18 inches; stony sandy loam

Layer 2--18 to 35 inches; very gravelly loam

Layer 3--35 to 44 inches; extremely cobbly loam

Layer 4--44 to 54 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Permeability class (root zone): Moderate

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: None assigned

Component Description

Almanor very gravelly sandy loam and similar soils

Landform: Ridges

Slope: 2 to 15 percent

Parent material: Volcanic ash and colluvium derived from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--pipsissewa, sedge, snowberry, greenleaf manzanita, squawcarpet, swamp carex, whitethorn ceanothus, serviceberry

Site index: Jeffrey pine--83 at an age base of 100 years

Site index: White fir--61 at an age base of 50 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 66

Typical profile:

Layer 1--0 to 5 inches; very gravelly sandy loam

Layer 2--5 to 17 inches; very gravelly sandy loam

Layer 3--17 to 40 inches; extremely gravelly sandy loam

Layer 4--40 to 50 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 3 inches thick

Runoff: Low

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 5 percent

Slope: 5 to 15 percent

Landform: Mountains

Ecological site: None assigned

Woodwest very stony sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 2 to 5 percent

Landform: Ridges

Typical vegetation: Forest canopy--Jeffrey pine, white fir,

Forest understory--squawcarpet, rabbitbrush, greenleaf manzanita, needlegrass

Ecological site: None assigned

Keddie loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Alluvial fans

Ecological site: None assigned

Management

Major uses: Timber production

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Forest land" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

379--Termo-Biscaro complex, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Lake plain
 Elevation: 4,400 to 4,500
 Precipitation: 9 to 12 inches
 Air temperature: 44 to 46 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Termo silty clay, 0 to 2 percent slopes--50 percent
 Biscaro silt loam, 0 to 2 percent slopes--30 percent
 Corral sandy loam, 0 to 2 percent slopes--5 percent
 Smocreek silty clay loam, 0 to 2 percent slopes--5 percent
 Yobe silt loam, 0 to 2 percent slopes--5 percent
 Ravendale silty clay, 0 to 2 percent slopes--5 percent

Component Description

Termo silty clay and similar soils

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from volcanic rock
 Typical vegetation: Black greasewood, Nevada bluegrass, spiny hopsage, big sagebrush, saltbush, bottlebrush squirreltail

Typical profile:

Layer 1--0 to 2 inches; silty clay
 Layer 2--2 to 38 inches; clay
 Layer 3--38 to 60 inches; silty clay
 Layer 4--60 to 65 inches; loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Permeability class (root zone): Very slow
 Salinity: Saline within 40 inches
 Sodicity: Sodic within 40 inches
 Available water capacity: About 7 inches
 Present flooding: None
 Present ponding: Frequent

Water table: Present

Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 4s-6

Ecological site: R023XF085CA--Silty clay flat 9-12

Component Description

Biscaro silt loam and similar soils

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from sandstone and siltstone
 Typical vegetation: Shadscale, big sagebrush, basin wildrye, spiny hopsage, Sandberg bluegrass, rubber rabbitbrush, black greasewood, bottlebrush squirreltail

Typical profile:

Layer 1--0 to 3 inches; silt loam
 Layer 2--3 to 9 inches; silty clay loam
 Layer 3--9 to 14 inches; silty clay
 Layer 4--14 to 24 inches; loam
 Layer 5--24 to 38 inches; extremely gravelly loam
 Layer 6--38 to 60 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 24 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 4 inches
 Present flooding: None
 Present ponding: Frequent
 Water table: Present
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 4s-6

Ecological site: R023XF089CA--Sodic flat 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Corral sandy loam and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Rock pediments
 Typical vegetation: Thurber needlegrass, needleandthread, big sagebrush, basin wildrye
 Ecological site: R023XF091CA--Loamy upland 9-12

Smocreek and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Stream terraces

Typical vegetation: Basin wildrye, basin big sagebrush

Ecological site: R023XF088CA--Loamy bottom 9-16

Yobe silt loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Black greasewood, alkaligrass, bluegrass, western wheatgrass, inland saltgrass, basin wildrye, rush

Ecological site: R023XG058CA--Saline-sodic subirrigated 6-16

Ravendale silty clay and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Basin floors

Typical vegetation: Western wheatgrass, silver sagebrush, beardless wildrye, Nevada bluegrass

Ecological site: R023XF092CA--Clay floodplain 9-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

380--Termo-Playas complex, 0 to 1 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Lake plain

Elevation: 5,200 to 5,400

Precipitation: 12 to 14 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Termo silty clay, 0 to 1 percent slopes--75 percent

Playas silty clay, 0 to 1 percent slopes--15 percent

Ravendale silty clay, 0 to 1 percent slopes--5 percent

Gerlach silty clay, 0 to 1 percent slopes--5 percent

Component Description**Termo silty clay and similar soils**

Landform: Lake terraces

Slope: 0 to 1 percent

Parent material: Alluvium derived from volcanic rock

Typical vegetation: Nevada bluegrass, spiny hopsage, basin wildrye, rubber rabbitbrush, big sagebrush, black greasewood

Typical profile:

Layer 1--0 to 2 inches; silty clay

Layer 2--2 to 38 inches; clay

Layer 3--38 to 60 inches; silty clay

Layer 4--60 to 65 inches; loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Permeability class (root zone): Very slow

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 7 inches

Present flooding: None

Present ponding: Frequent

Water table: Present

Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 4s-6

Ecological site: R021XE192CA--Silty sodic flat 12-16

Component Description**Playas silty clay**

Landform: Playas

Slope: 0 to 1 percent

Component Properties and Qualities

Runoff: Negligible

Salinity: Saline within 40 inches

Present ponding: Frequent

Interpretive Groups

Nonirrigated land capability: 8

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Ravendale silty clay and similar soils**

Composition: 0 to 5 percent

Slope: 0 to 1 percent

Landform: Basin floors

Typical vegetation: Nevada bluegrass, beardless wildrye, silver sagebrush, western wheatgrass

Ecological site: R023XF092CA--Clay floodplain 9-16

Gerlach silty clay and similar soils

Composition: 0 to 5 percent

Slope: 0 to 1 percent

Landform: Alluvial flat

Typical vegetation: Big sagebrush, western wheatgrass, rubber rabbitbrush, Thurber needlegrass, littleleaf horsebrush, beardless wildrye, bottlebrush squirreltail

Ecological site: R023XF084CA--Clay upland 9-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

381--Termo-Springmeyer-Smocreek complex, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Lake plain

Elevation: 4,400 to 4,600

Precipitation: 9 to 12 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Termo silty clay, 0 to 2 percent slopes--60 percent

Springmeyer loam, 0 to 2 percent slopes--15 percent

Smocreek silty clay loam, 0 to 2 percent slopes--10 percent

Gerlach silty clay, 0 to 2 percent slopes--5 percent

Biscaro silt loam, 0 to 2 percent slopes--5 percent

Ravendale silty clay, 0 to 2 percent slopes--5 percent

Component Description

Termo silty clay and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Alluvium derived from volcanic rock

Typical vegetation: Rubber rabbitbrush, basin wildrye, spiny hopsage, Sandberg bluegrass, big sagebrush, bottlebrush squirreltail, shadscale, black greasewood

Typical profile:

Layer 1--0 to 2 inches; silty clay

Layer 2--2 to 38 inches; clay

Layer 3--38 to 60 inches; silty clay

Layer 4--60 to 65 inches; loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Permeability class (root zone): Very slow

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 7 inches

Present flooding: None

Present ponding: Frequent

Water table: Present

Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R023XF089CA--Sodic flat 9-12

Component Description

Springmeyer loam and similar soils

Landform: Fans remnants

Slope: 0 to 2 percent

Parent material: Alluvium derived from mixed rocks

Typical vegetation: Basin wildrye, Thurber needlegrass, big sagebrush, needleandthread

Typical profile:

Layer 1--0 to 11 inches; loam

Layer 2--11 to 46 inches; clay loam

Layer 3--46 to 60 inches; stratified gravelly loamy sand to sandy clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium

Permeability class (root zone): Moderately slow

Available water capacity: About 8 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R023XF091CA--Loamy upland 9-12

Component Description

Smocreek silty clay loam and similar soils

Landform: Stream terraces

Slope: 0 to 2 percent

Parent material: Alluvium derived from volcanic rock

Typical vegetation: Basin big sagebrush, basin wildrye

Typical profile:

Layer 1--0 to 13 inches; silty clay loam

Layer 2--13 to 19 inches; silt loam

Layer 3--19 to 60 inches; silty clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Permeability class (root zone): Moderately slow

Available water capacity: About 11 inches

Present flooding: Rare

Water table: Present

Natural drainage class: Somewhat poorly drained

Interpretive Groups

Irrigated land capability: 3w

Nonirrigated land capability: 4w

Ecological site: R023XF088CA--Loamy bottom 9-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Gerlach silty clay and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Alluvial flats

Typical vegetation: Beardless wildrye, rubber rabbitbrush, big sagebrush, Thurber needlegrass, littleleaf horsebrush, western wheatgrass, bottlebrush squirreltail

Ecological site: R023XF084CA--Clay upland 9-16

Biscaro silt loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Black greasewood, big sagebrush, shadscale, rubber rabbitbrush, basin wildrye, bottlebrush squirreltail, spiny hopsage, Sandberg bluegrass

Ecological site: R023XF089CA--Sodic flat 9-12

Ravendale silty clay and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Basin floors

Typical vegetation: Beardless wildrye, western wheatgrass, silver sagebrush, Nevada bluegrass

Ecological site: R023XF092CA--Clay floodplain 9-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

382--Toiyabe-Lasco-Quartzburg complex, 30 to 50 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains

Elevation: 6,000 to 7,000

Precipitation: 25 to 30 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Toiyabe loamy coarse sand, 30 to 50 percent slopes--50 percent

Lasco gravelly loamy coarse sand, 30 to 50 percent slopes--20 percent

Quartzburg stony loamy sand, 30 to 50 percent slopes--15 percent

Rock outcrop, 30 to 50 percent slopes--5 percent

Toiyabe loamy coarse sand, 30 to 50 percent slopes, very bouldery--5 percent

Outland very stony loam, 30 to 50 percent slopes--5 percent

Component Description

Toiyabe loamy coarse sand and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent

Parent material: Colluvium derived from granite and residuum weathered from granite

Typical vegetation: Forest canopy--Jeffrey pine, ponderosa pine, white fir; Forest understory--other shrubs, snowbrush, ceanothus, snowberry, pointleaf manzanita, big sagebrush, Thurber needlegrass, penstemon, Nevada bluegrass, other perennial forbs, bottlebrush squirreltail, other perennial grasses, antelope bitterbrush

Site index: Jeffrey pine--61 at an age base of 100 years

Additional forest note: Dunning site class: IV

Additional forest note: Cactus site index: 45

Typical profile:

Layer 1--0 to 7 inches; loamy coarse sand

Layer 2--7 to 15 inches; gravelly loamy coarse sand

Layer 3--15 to 19 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches

Permeability class (root zone): Rapid

Available water capacity: About 1.0 inch

Present flooding: None

Natural drainage class: Excessively drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Component Description**Lasco gravelly loamy coarse sand and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 50 percent, north aspect

Parent material: Colluvium derived from granite and residuum weathered from granite

Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--snowbrush ceanothus, needlegrass, whitethorn ceanothus, mountain brome, manzanita

Site index: Jeffrey pine--85 at an age base of 100 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 58

Typical profile:

Layer 1--0 to 9 inches; gravelly loamy coarse sand

Layer 2--9 to 49 inches; gravelly sandy loam

Layer 3--49 to 59 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 2 inches thick

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Component Description**Quartzburg stony loamy sand and similar soils**

Landform: Ridges

Slope: 30 to 50 percent

Parent material: Granite

Typical vegetation: Forest canopy--Jeffrey pine

Site index: Jeffrey pine--64 at an age base of 100 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 74

Typical profile:

Surface rock fragments: About 5 percent cobbles, 10 percent stones

Layer 1--0 to 7 inches; stony loamy sand

Layer 2--7 to 26 inches; very gravelly loamy coarse sand

Layer 3--26 to 30 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Rapid

Available water capacity: About 1.0 inch

Present flooding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Rock outcrop**

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Mountains

Ecological site: None assigned

Toiyabe and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Jeffrey pine, ponderosa pine, white fir; Forest understory--snowberry, bottlebrush squirreltail, antelope bitterbrush, other perennial grasses, Thurber needlegrass, other perennial forbs, snowbrush ceanothus, big sagebrush, pointleaf manzanita, penstemon, Nevada bluegrass, other shrubs

Ecological site: None assigned

Outland very stony loam and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Jeffrey pine, ponderosa pine, white fir; Forest understory--snowberry, sharpleaf snowberry, antelope bitterbrush, squawcarpet, whitethorn ceanothus, Sierra chinkapin, greenleaf manzanita, snowbrush ceanothus

Ecological site: None assigned

Management

Major uses: Timber production and livestock grazing
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Forest land" section
"Engineering" section
"Soil Properties" section

383--Toiyabe-Lasco complex, 2 to 30 percent slopes

Map Unit Setting

MLRA: 22
Landscape: Mountains
Elevation: 6,000 to 6,400
Precipitation: 25 to 30 inches
Air temperature: 43 to 45 degrees Fahrenheit
Frost-free period: 60 to 80 days

Composition

Toiyabe gravelly loamy coarse sand, 2 to 30 percent slopes--55 percent
Lasco gravelly loamy coarse sand, 2 to 30 percent slopes--30 percent
Bonta coarse sandy loam, 9 to 15 percent slopes--8 percent
Toiyabe gravelly loamy coarse sand, 15 to 30 percent slopes, very bouldery--7 percent

Component Description

Toiyabe gravelly loamy coarse sand and similar soils

Landform: Backslopes of mountains
Slope: 2 to 30 percent
Parent material: Colluvium derived from granite and residuum weathered from granite
Typical vegetation: Forest canopy--Jeffrey pine, ponderosa pine, white fir; Forest understory--other perennial grasses, other perennial forbs, snowberry, Thurber needlegrass, bottlebrush squirreltail, other shrubs, antelope bitterbrush, Nevada bluegrass, penstemon, pointleaf manzanita, big sagebrush, snowbrush ceanothus
Site index: Jeffrey pine--61 at an age base of 100 years
Additional forest note: Dunning site class: IV
Additional forest note: Cactus site index: 45

Typical profile:

Layer 1--0 to 7 inches; gravelly loamy coarse sand
Layer 2--7 to 15 inches; gravelly loamy coarse sand
Layer 3--15 to 19 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low
Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches
Permeability class (root zone): Rapid
Available water capacity: About 0.9 inch
Present flooding: None
Natural drainage class: Excessively drained

Interpretive Groups

Nonirrigated land capability: 6e
Ecological site: None assigned

Component Description

Lasco gravelly loamy coarse sand and similar soils

Landform: Backslopes of mountains
Slope: 2 to 30 percent
Parent material: Colluvium derived from granite and residuum weathered from granite
Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--snowbrush ceanothus, needlegrass, manzanita, whitethorn ceanothus, mountain brome
Site index: Jeffrey pine--85 at an age base of 100 years
Additional forest note: Dunning site class: III
Additional forest note: Cactus site index: 58

Typical profile:

Layer 1--0 to 9 inches; gravelly loamy coarse sand
Layer 2--9 to 49 inches; gravelly sandy loam
Layer 3--49 to 59 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 2 inches thick
Runoff: Low
Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
Permeability class (root zone): Moderately rapid
Available water capacity: About 4 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Bonta coarse sandy loam and similar soils

Composition: 0 to 8 percent

Slope: 9 to 15 percent

Landform: Toeslopes of mountains

Typical vegetation: Forest canopy--California black oak, Douglas fir, Jeffrey pine, white fir; Forest understory--western needlegrass, big sagebrush, greenleaf manzanita, antelope bitterbrush, other perennial grasses, whitethorn ceanothus

Ecological site: None assigned

Toiyabe and similar soils

Composition: 0 to 7 percent

Slope: 15 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy--Jeffrey pine, ponderosa pine, white fir; Forest understory--snowberry, snowbrush ceanothus, other shrubs, bottlebrush squirreltail, antelope bitterbrush, pointleaf manzanita, other perennial grasses, Thurber needlegrass, penstemon, other perennial forbs, Nevada bluegrass, big sagebrush

Ecological site: None assigned

Management

Major uses: Timber production

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Forest land" section

"Engineering" section

"Soil Properties" section

384--Torriorthents-Zorravista complex, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Lake plain

Elevation: 4,000 to 4,010

Precipitation: 6 to 9 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Torriorthents loam, 0 to 2 percent slopes--65 percent

Zorravista loamy sand, 0 to 2 percent slopes--25 percent

Rock outcrop, tufa, 0 to 2 percent slopes--5 percent

Dune land, 0 to 2 percent slopes--5 percent

Component Description

Torriorthents loam and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Lacustrine deposits

Typical profile:

Layer 1--0 to 3 inches; loam

Layer 2--3 to 60 inches; stratified silty clay loam to loamy sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Low

Permeability class (root zone): Moderate

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: None assigned

Component Description

Zorravista loamy sand and similar soils

Landform: Dunes

Slope: 0 to 2 percent

Parent material: Eolian sands

Typical vegetation: Indian ricegrass, littleleaf horsebrush, spiny hopsage, black greasewood, needleandthread, basin wildrye, rubber rabbitbrush, fourwing saltbush, basin big sagebrush

Typical profile:

Layer 1--0 to 4 inches; loamy sand

Layer 2--4 to 60 inches; stratified fine sand to sand to loamy fine sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Negligible

Permeability class (root zone): Very rapid

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Excessively drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XG049CA--Sand dunes 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop, tufa

Composition: 0 to 5 percent
Slope: 0 to 2 percent
Landform: Lake terraces
Ecological site: None assigned

Dune land

Composition: 0 to 5 percent
Slope: 0 to 2 percent
Landform: Dunes
Ecological site: None assigned

Management

Major uses: Livestock grazing
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Engineering" section
"Soil Properties" section

385--Truax sandy loam, 0 to 5 percent slopes

Map Unit Setting

MLRA: 21
Landscape: Fan piedmont
Elevation: 5,000 to 5,400
Precipitation: 12 to 16 inches
Air temperature: 44 to 46 degrees Fahrenheit
Frost-free period: 60 to 80 days

Composition

Truax sandy loam, 0 to 5 percent slopes--85 percent
Incy fine sand, 0 to 5 percent slopes--8 percent
Termo silty clay, 0 to 2 percent slopes--7 percent

Component Description

Truax sandy loam and similar soils

Landform: Fan remnants
Slope: 0 to 5 percent
Parent material: Alluvium derived from mixed rocks
Typical vegetation: Mountain big sagebrush, antelope bitterbrush, Idaho fescue, needleandthread, beardless wildrye

Typical profile:

Layer 1--0 to 11 inches; sandy loam
Layer 2--11 to 38 inches; sandy clay loam

Layer 3--38 to 50 inches; sandy loam
Layer 4--50 to 52 inches; cemented
Layer 5--52 to 60 inches; stratified gravelly sandy loam to sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
Depth to restrictive feature: Cemented horizon: 41 to 52 inches
Permeability class (root zone): Moderately slow
Available water capacity: About 7 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 4e-1
Nonirrigated land capability: 4e-1
Ecological site: R021XE180CA--Sandy loam fan 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Incy fine sand and similar soils

Composition: 0 to 8 percent
Slope: 0 to 5 percent
Landform: Dunes
Typical vegetation: Needleandthread, Indian ricegrass, arrowleaf balsamroot, Wyoming big sagebrush, antelope bitterbrush, western wheatgrass, sand dropseed
Ecological site: R026XF022CA--Granitic sand 9-12

Termo silty clay and similar soils

Composition: 0 to 7 percent
Slope: 0 to 2 percent
Landform: Lake terraces
Typical vegetation: Big sagebrush, shadscale, rubber rabbitbrush, basin wildrye, spiny hopsage, Sandberg bluegrass, bottlebrush squirreltail, black greasewood
Ecological site: R023XF089CA--Sodic flat 9-12

Management

Major uses: Irrigated crops and alfalfa hay
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" section
"Soil Properties" section

386--Truckee loam, 0 to 2 percent slopes**Map Unit Setting**

MLRA: 23
 Landscape: Alluvial plain
 Elevation: 4,000 to 4,200
 Precipitation: 9 to 12 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Truckee loam, 0 to 2 percent slopes--90 percent
 Modoc sandy loam, 0 to 2 percent slopes--10 percent

Component Description**Truckee loam and similar soils**

Landform: Flood plains
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 17 inches; loam
 Layer 2--17 to 69 inches; stratified sandy loam to silty clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Permeability class (root zone): Moderately slow
 Available water capacity: About 10 inches
 Present flooding: Rare
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 2w-2
 Nonirrigated land capability: 6w
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Modoc sandy loam and similar soils**

Composition: 0 to 10 percent
 Slope: 0 to 2 percent
 Landform: Fan remnants
 Typical vegetation: Idaho fescue, basin wildrye, basin big sagebrush, bluebunch wheatgrass
 Ecological site: R021XE186CA--Loamy terrace 12-16

Management

Major uses: Irrigated grass hay and pasture, livestock grazing, and wildlife habitat

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

387--Truckee-Humboldt complex, 0 to 2 percent slopes**Map Unit Setting**

MLRA: 23
 Landscape: Alluvial plain
 Elevation: 3,990 to 4,050
 Precipitation: 9 to 12 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Truckee clay loam, 0 to 2 percent slopes--55 percent
 Humboldt silty clay, 0 to 2 percent slopes--30 percent
 Fluvents stratified very fine sandy loam, 0 to 2 percent slopes--5 percent
 Smocreek silt loam, 0 to 2 percent slopes--5 percent
 Humboldt silty clay, saline, 0 to 2 percent slopes--5 percent

Component Description**Truckee clay loam and similar soils**

Landform: Flood plains
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 12 inches; clay loam
 Layer 2--12 to 69 inches; stratified sandy loam to silty clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Permeability class (root zone): Moderately slow
 Available water capacity: About 10 inches
 Present flooding: Occasional
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 4w-2
 Nonirrigated land capability: 6w
 Ecological site: None assigned

Component Description**Humboldt silty clay and similar soils**

Landform: Flood plains

Slope: 0 to 2 percent

Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 21 inches; silty clay

Layer 2--21 to 60 inches; stratified silty clay loam to clay

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Available water capacity: About 11 inches

Present flooding: Occasional

Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 4w-2

Nonirrigated land capability: 6w

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Fluvents and similar soils**

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Flood plains

Ecological site: None assigned

Smocreek silt loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Stream terraces

Ecological site: None assigned

Humboldt silty clay and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Flood plains

Ecological site: None assigned

Management

Major uses: Irrigated grass hay and pasture, livestock grazing, and wildlife habitat

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

388--Tunnison very cobbly clay, 2 to 9 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Plateau

Elevation: 4,600 to 5,400

Precipitation: 12 to 16 inches

Air temperature: 47 to 49 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Tunnison very cobbly clay, 2 to 9 percent slopes--85 percent

Devada very cobbly loam, 2 to 9 percent slopes--5 percent

Horsecamp cobbly silty clay, 2 to 9 percent slopes--3 percent

Longcreek very cobbly loam, 2 to 9 percent slopes--3 percent

Rock outcrop, 5 to 9 percent slopes--2 percent

Rubble land, 5 to 9 percent slopes--2 percent

Component Description**Tunnison very cobbly clay and similar soils**

Landform: Plateaus

Slope: 2 to 9 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Littleleaf horsebrush, big sagebrush, rubber rabbitbrush, beardless wildrye, Thurber needlegrass, bottlebrush squirreltail, western wheatgrass

Typical profile:

Surface rock fragments: About 30 percent cobbles

Layer 1--0 to 1 inch; very cobbly clay

Layer 2--1 to 31 inches; clay

Layer 3--31 to 38 inches; weathered bedrock

Layer 4--38 to 48 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 20 to 35 inches, Bedrock (lithic): 30 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 4 inches

Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF093CA--Shallow clay 9-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada very cobbly loam and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 9 percent
 Landform: Mountains
 Typical vegetation: Bluegrass, low sagebrush, bluebunch wheatgrass, Thurber needlegrass
 Ecological site: R023XF081CA--Shallow stony loam 9-12

Horsecamp cobbly silty clay and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 9 percent
 Landform: Plateaus
 Typical vegetation: Beardless wildrye, western wheatgrass, big sagebrush, bottlebrush squirreltail, Thurber needlegrass, rubber rabbitbrush, littleleaf horsebrush
 Ecological site: R023XF084CA--Clay upland 9-16

Longcreek very cobbly loam and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 9 percent
 Landform: Mountains
 Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, basin wildrye, antelope bitterbrush, Thurber needlegrass
 Ecological site: R023XF082CA--Stony loam 9-12

Rock outcrop

Composition: 0 to 2 percent
 Slope: 5 to 9 percent
 Landform: Plateaus
 Ecological site: None assigned

Rubble land

Composition: 0 to 2 percent
 Slope: 5 to 9 percent
 Landform: Plateaus
 Ecological site: None assigned

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section
 "Engineering" section
 "Soil Properties" section

389--Tunnison-Devada association, 2 to 15 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 5,000 to 5,200
 Precipitation: 9 to 12 inches
 Air temperature: 45 to 47 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Tunnison very stony clay, 0 to 9 percent slopes--60 percent
 Devada very cobbly loam, 2 to 15 percent slopes--30 percent
 Urban land, 0 to 2 percent slopes--3 percent
 Rock outcrop, 5 to 15 percent slopes--7 percent

Component Description

Tunnison very stony clay and similar soils

Landform: Plateaus
 Slope: 0 to 9 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Littleleaf horsebrush, Thurber needlegrass, rubber rabbitbrush, western wheatgrass, beardless wildrye, big sagebrush, bottlebrush squirreltail

Typical profile:

Surface rock fragments: About 25 percent cobbles, 20 percent stones
 Layer 1--0 to 1 inch; very stony clay
 Layer 2--1 to 31 inches; clay
 Layer 3--31 to 38 inches; weathered bedrock
 Layer 4--38 to 48 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 20 to 35 inches, Bedrock (lithic): 30 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XF093CA--Shallow clay 9-16

Component Description**Devada very cobbly loam and similar soils**

Landform: Plateaus

Slope: 2 to 15 percent

Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite

Typical vegetation: Bluebunch wheatgrass, low sagebrush, bluegrass, Thurber needlegrass

Typical profile:

Surface rock fragments: About 20 percent cobbles, 12 percent stones

Layer 1--0 to 4 inches; very cobbly loam

Layer 2--4 to 13 inches; gravelly clay

Layer 3--13 to 23 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XF081CA--Shallow stony loam 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Rock outcrop**

Composition: 0 to 7 percent

Slope: 5 to 15 percent

Landform: Plateaus

Ecological site: None assigned

Urban land shallow

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Plateaus

Ecological site: None assigned

Management

Major uses: Livestock grazing, wildlife habitat, watershed and recreation

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

390--Tunnison-Devada association, 2 to 9 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Plateau

Elevation: 5,450 to 5,550

Precipitation: 12 to 16 inches

Air temperature: 45 to 47 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Tunnison very stony clay, 2 to 9 percent slopes--50 percent

Devada extremely cobbly loam, 2 to 9 percent slopes--45 percent

Orhood very stony loam, 5 to 9 percent slopes--5 percent

Component Description**Tunnison very stony clay and similar soils**

Landform: Plateaus

Slope: 2 to 9 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Big sagebrush, rubber rabbitbrush, bottlebrush squirreltail, Thurber needlegrass, beardless wildrye, western wheatgrass, littleleaf horsebrush

Typical profile:

Surface rock fragments: About 25 percent cobbles, 20 percent stones

Layer 1--0 to 1 inch; very stony clay

Layer 2--1 to 31 inches; clay

Layer 3--31 to 38 inches; weathered bedrock

Layer 4--38 to 48 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 20 to 35 inches

Bedrock (lithic): 30 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XF093CA--Shallow clay 9-16

Component Description

Devada extremely cobbly loam and similar soils

Landform: Plateaus

Slope: 2 to 9 percent

Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite

Typical vegetation: Bluebunch wheatgrass, low sagebrush, Idaho fescue, antelope bitterbrush, Thurber needlegrass, bluegrass

Typical profile:

Surface rock fragments: About 25 percent cobbles, 30 percent stones

Layer 1--0 to 7 inches; extremely cobbly loam

Layer 2--7 to 15 inches; gravelly clay

Layer 3--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE173CA--Shallow stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Orhood very stony loam and similar soils

Composition: 0 to 5 percent

Slope: 5 to 9 percent

Landform: Backslopes of mountains, ridges

Typical vegetation: Forest canopy--western juniper, Forest understory--Thurber needlegrass, arrowleaf balsamroot, Sandberg bluegrass, antelope bitterbrush, Lemmon needlegrass, rabbitbrush, mountain big sagebrush, bluebunch wheatgrass, Idaho fescue

Ecological site: R021XE174CA--Stony loam 12-16

Management

Major uses: Livestock grazing and urban development

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

391--Uihalf gravelly loam, 30 to 50 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Mountains

Elevation: 4,600 to 5,000

Precipitation: 35 to 40 inches

Air temperature: 45 to 47 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Uihalf gravelly loam, 30 to 50 percent slopes--85 percent

Inville very gravelly loam, 2 to 5 percent slopes--8 percent

Southpac very stony loam, 30 to 50 percent slopes--7 percent

Component Description

Uihalf gravelly loam and similar soils

Landform: Mountains

Slope: 30 to 50 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Douglas fir, ponderosa pine, white fir; Forest understory--whitethorn ceanothus, mountain brome, greenleaf manzanita, needlegrass, snowbrush ceanothus

Site index: Douglas fir--97 at an age base of 100 years

Site index: Ponderosa pine--97 at an age base of 100 years

Site index: White fir--70 at an age base of 50 years

Additional forest note: Dunning site class: II

Additional forest note: Cactus site index: 69

Typical profile:

Layer 1--0 to 4 inches; gravelly loam

Layer 2--4 to 18 inches; gravelly loam

Layer 3--18 to 54 inches; gravelly clay loam

Layer 4--54 to 64 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Permeability class (root zone): Moderately slow
 Available water capacity: About 7 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 4e-4
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Inville very gravelly loam and similar soils

Composition: 0 to 8 percent
 Slope: 2 to 5 percent
 Landform: Basin floors, drainageways
 Typical vegetation: Forest canopy--Jeffrey pine, lodgepole pine, ponderosa pine; Forest understory--needlegrass, whitethorn ceanothus, manzanita, snowbrush ceanothus, mountain brome
 Ecological site: None assigned

Southpac very stony loam and similar soils

Composition: 0 to 7 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, ponderosa pine; Forest understory--antelope bitterbrush, wooly wyethia, squawcarpet, deltoid balsamroot
 Ecological site: None assigned

Management

Major uses: Timber production, watershed, wildlife habitat and recreation

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Forest land" section
 "Engineering" section
 "Soil Properties" section

392--Uihalf very gravelly loam, 2 to 15 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Mountains
 Elevation: 4,400 to 4,900
 Precipitation: 35 to 40 inches
 Air temperature: 45 to 47 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Uihalf very gravelly loam, 2 to 15 percent slopes--90 percent
 Deadwood very gravelly sandy loam, 9 to 15 percent slopes--5 percent
 Penstock very gravelly sandy loam, 5 to 15 percent slopes--5 percent

Component Description

Uihalf very gravelly loam and similar soils

Landform: Toeslopes of mountains
 Slope: 2 to 15 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Douglas fir, ponderosa pine, white fir; Forest understory--whitethorn ceanothus, mountain brome, snowbrush ceanothus, needlegrass, greenleaf manzanita
 Site index: Douglas fir--97 at an age base of 100 years
 Site index: Ponderosa pine--97 at an age base of 100 years
 Site index: White fir--70 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 69

Typical profile:

Layer 1--0 to 4 inches; very gravelly loam
 Layer 2--4 to 18 inches; gravelly loam
 Layer 3--18 to 54 inches; gravelly clay loam
 Layer 4--54 to 64 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 7 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 4e-4
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Deadwood very gravelly sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 9 to 15 percent

Landform: Ridges

Typical vegetation: Forest canopy--Douglas fir, canyon live oak, incense cedar, ponderosa pine, sugar pine, Forest understory--pinemat manzanita, greenleaf manzanita, California nutmeg

Ecological site: None assigned

Penstock very gravelly sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 5 to 15 percent

Landform: Mountains

Typical vegetation: Forest canopy--Douglas fir, Jeffrey pine, white fir; Forest understory--whitethorn ceanothus, mountain brome, needlegrass, snowbrush ceanothus, manzanita

Ecological site: None assigned

Management

Major uses: Timber production

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Forest land" section

"Engineering" section

"Soil Properties" section

393--Uihalf-Gavel complex, 2 to 15 percent slopes

Map Unit Setting

MLRA: 22

Landscape: Plateau

Elevation: 4,900 to 5,300

Precipitation: 20 to 25 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Uihalf very gravelly sandy loam, 2 to 5 percent slopes--60 percent

Gavel very cobbly sandy loam, 2 to 15 percent slopes--30 percent

Southpac very stony loam, 9 to 15 percent slopes--10 percent

Component Description

Uihalf very gravelly sandy loam and similar soils

Landform: Toeslopes of plateaus

Slope: 2 to 5 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, ponderosa pine; Forest understory--antelope bitterbrush, Idaho fescue, mountain big sagebrush

Site index: Jeffrey pine--82 at an age base of 100 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 55

Typical profile:

Surface rock fragments: About 20 percent stones, 5 percent cobbles

Layer 1--0 to 4 inches; very gravelly sandy loam

Layer 2--4 to 18 inches; gravelly loam

Layer 3--18 to 54 inches; gravelly clay loam

Layer 4--54 to 64 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: Low

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 7 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Component Description

Gavel and similar soils

Landform: Plateaus

Slope: 2 to 15 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, western juniper; Forest understory--sedge, curleaf mountain mahogany, Idaho fescue, bottlebrush squirreltail,

Columbia needlegrass, mountain big sagebrush

Site index: Jeffrey pine--71 at an age base of 100 years

Typical profile:

Layer 1--0 to 12 inches; very cobbly sandy loam

Layer 2--12 to 27 inches; very gravelly loam

Layer 3--27 to 37 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Permeability class (root zone): Moderate

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Southpac very stony loam and similar soils**

Composition: 0 to 10 percent

Slope: 9 to 15 percent

Landform: Backslopes of plateaus

Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, ponderosa pine; Forest understory--squawcarpet, deltoid balsamroot, wooly wyethia, antelope bitterbrush

Ecological site: None assigned

Management

Major uses: Timber production

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Forest land" section

"Engineering" section

"Soil Properties" section

394--Uihalf-Southpac complex, 2 to 30 percent slopes***Map Unit Setting***

MLRA: 22

Landscape: Plateau

Elevation: 4,600 to 5,400

Precipitation: 20 to 30 inches

Air temperature: 48 to 50 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Uihalf very gravelly sandy loam, 2 to 15 percent slopes--60 percent

Southpac very stony loam, 9 to 30 percent slopes--30 percent

Rock outcrop, 15 to 30 percent slopes--10 percent

Component Description**Uihalf very gravelly sandy loam and similar soils**

Landform: Summits of plateaus

Slope: 2 to 15 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, ponderosa pine; Forest understory--bitterbrush, needlegrass, mountain brome

Site index: Jeffrey pine--82 at an age base of 100 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 55

Typical profile:

Layer 2--0 to 4 inches; very gravelly sandy loam

Layer 3--4 to 18 inches; gravelly loam

Layer 4--18 to 54 inches; gravelly clay loam

Layer 5--54 to 64 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 2 inches thick

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Permeability class (root zone): Moderately slow

Available water capacity: About 7 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: None assigned

Component Description**Southpac very stony loam and similar soils**

Landform: Backslopes of plateaus

Slope: 9 to 30 percent

Parent material: Colluvium derived from andesite and residuum weathered from andesite

Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, ponderosa pine; Forest understory--squawcarpet, wooly wyethia, deltoid balsamroot, antelope bitterbrush

Site index: Jeffrey pine--78 at an age base of 100 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 48

Typical profile:

Surface rock fragments: About 5 percent cobbles, 20 percent stones

Layer 1--0 to 7 inches; very stony loam
 Layer 2--7 to 35 inches; very gravelly loam
 Layer 3--35 to 61 inch; gravelly clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: High
 Permeability class (root zone): Moderately slow
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 10 percent
 Slope: 15 to 30 percent
 Landform: Shoulders of plateaus
 Ecological site: None assigned

Management

Major uses: Timber production
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

395--Verdico-Chalco association, 2 to 30 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 4,600 to 5,400
 Precipitation: 9 to 12 inches
 Air temperature: 48 to 50 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Verdico cobbly sandy loam, 9 to 30 percent slopes--50 percent

Chalco gravelly fine sandy loam, 2 to 9 percent slopes--40 percent

Rock outcrop, 15 to 30 percent slopes--5 percent

Tunnison very cobbly clay, 2 to 9 percent slopes--5 percent

Component Description

Verdico cobbly sandy loam and similar soils

Landform: Backslopes of rock pediments
 Slope: 9 to 30 percent
 Parent material: Colluvium derived from tuff and residuum weathered from tuff
 Typical vegetation: Spiny hopsage, Webber needlegrass, Thurber needlegrass, Lahontan sagebrush, Indian ricegrass

Typical profile:

Surface rock fragments: About 15 percent cobbles
 Layer 1--0 to 3 inches; cobbly sandy loam
 Layer 2--3 to 29 inches; clay
 Layer 3--29 to 60 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Very slow
 Available water capacity: About 5 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R023XF083CA--Shallow stony clay loam 9-12

Component Description

Chalco gravelly fine sandy loam and similar soils

Landform: Backslopes of rock pediments, summits of rock pediments
 Slope: 2 to 9 percent
 Parent material: Colluvium derived from tuff and residuum weathered from tuff
 Typical vegetation: Thurber needlegrass, Indian ricegrass, Webber needlegrass, Lahontan sagebrush, spiny hopsage

Typical profile:

Layer 1--0 to 4 inches; gravelly fine sandy loam
 Layer 2--4 to 15 inches; clay
 Layer 3--15 to 19 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches

Permeability class (root zone): Very slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XF083CA--Shallow stony clay loam 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Rock outcrop**

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Plateaus

Ecological site: None assigned

Tunnison very cobbly clay and similar soils

Composition: 0 to 5 percent

Slope: 2 to 9 percent

Landform: Plateaus

Typical vegetation: Thurber needlegrass, bottlebrush squirreltail, western wheatgrass, big sagebrush, rubber rabbitbrush, beardless wildrye, littleleaf horsebrush

Ecological site: R023XF093CA--Shallow clay 9-16

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

396--Wespac sand, 0 to 2 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Lake plain

Elevation: 4,020 to 4,040

Precipitation: 6 to 9 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Wespac sand, 0 to 2 percent slopes--85 percent

Zorravista sand, 0 to 2 percent slopes--5 percent

Highrock fine sandy loam, 0 to 2 percent slopes--5 percent

Ardep fine sandy loam, 0 to 2 percent slopes--5 percent

Component Description**Wespac sand and similar soils**

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Lacustrine deposits

Typical vegetation: Needleandthread, bottlebrush squirreltail, Indian ricegrass, basin wildrye, basin big sagebrush

Typical profile:

Layer 1--0 to 10 inches; sand

Layer 2--10 to 19 inches; sandy clay loam

Layer 3--19 to 60 inches; loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 4s-6

Nonirrigated land capability: 7s

Ecological site: R023XG052CA--Sodic shallow sand 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Zorravista sand and similar soils**

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Dunes

Typical vegetation: Littleleaf horsebrush, black greasewood, Indian ricegrass, spiny hopsage, needleandthread, rubber rabbitbrush, fourwing saltbush, basin big sagebrush, basin wildrye

Ecological site: R023XG049CA

Highrock and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Spiny hopsage, shadscale, basin wildrye, black greasewood, bottlebrush squirreltail

Ecological site: R023XG047CA--Sodic terrace 6-9

Ardep fine sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Black greasewood, bottlebrush
squirreltail, shadscale, bud sagebrush

Ecological site: R023XG046CA--Sodic flat 6-9

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

397--Wespac-Playas complex, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Lake plain

Elevation: 4,000 to 4,010

Precipitation: 6 to 9 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Wespac silt loam, 0 to 2 percent slopes--50 percent

Playas silty clay, 0 to 1 percent slopes--30 percent

Ragtown loam, 0 to 2 percent slopes--5 percent

Lieberman fine sandy loam, 0 to 2 percent slopes--5 percent

Highrock fine sandy loam, 0 to 2 percent slopes--5 percent

Epot very fine sandy loam, 0 to 2 percent slopes--5 percent

Component Description

Wespac silt loam and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Lacustrine deposits

Typical vegetation: Basin big sagebrush, basin wildrye,
black greasewood, bottlebrush squirreltail

Typical profile:

Layer 1--0 to 10 inches; silt loam

Layer 2--10 to 19 inches; clay loam

Layer 3--19 to 60 inches; loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High

Permeability class (root zone): Slow

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 7 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3s-6

Nonirrigated land capability: 7s

Ecological site: R023XG048CA--Sodic loam 6-9

Component Description

Playas silty clay

Landform: Playas

Slope: 0 to 1 percent

Component Properties and Qualities

Runoff: Negligible

Salinity: Saline within 40 inches

Present ponding: Frequent

Interpretive Groups

Nonirrigated land capability: 8

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Ragtown loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Shadscale, basin wildrye, spiny

hopsage, black greasewood, bottlebrush squirreltail

Ecological site: R023XG047CA--Sodic terrace 6-9

Lieberman fine sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Bud sagebrush, shadscale, black
greasewood, bottlebrush squirreltail

Ecological site: R023XG046CA--Sodic flat 6-9

Highrock and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces
 Typical vegetation: Spiny hopsage, bottlebrush squirreltail, basin wildrye, black greasewood, shadscale
 Ecological site: R023XG047CA--Sodic terrace 6-9

Epote very fine sandy loam and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Shadscale, bud sagebrush, black greasewood, bottlebrush squirreltail
 Ecological site: R023XG046CA--Sodic flat 6-9

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

398--Weste-Baileycreek-Tahand complex, 5 to 30 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Plateau
 Elevation: 4,600 to 5,000
 Precipitation: 30 to 40 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Weste very bouldery sandy loam, 5 to 30 percent slopes--35 percent
 Baileycreek very bouldery loam, 5 to 30 percent slopes--30 percent
 Tahand gravelly sandy loam, 5 to 30 percent slopes--20 percent
 Rubble land, 15 to 30 percent slopes--8 percent
 Rock outcrop, 15 to 30 percent slopes--7 percent

Component Description

Weste very bouldery sandy loam and similar soils

Landform: Backslopes of plateaus
 Slope: 5 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, sugar pine, white fir; Forest understory--greenleaf manzanita, whitethorn ceanothus, squawcarpet
 Site index: Jeffrey pine--101 at an age base of 100 years

Site index: White fir--53 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 70

Typical profile:

Surface rock fragments: About 15 percent boulders, 5 percent stones
 Layer 1--0 to 9 inches; very bouldery sandy loam
 Layer 2--9 to 29 inches; very gravelly loam
 Layer 3--29 to 33 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: None assigned

Component Description

Baileycreek very bouldery loam and similar soils

Landform: Backslopes of plateaus
 Slope: 5 to 30 percent
 Parent material: Volcanic ash and colluvium derived from basalt and andesite and residuum weathered from basalt or andesite
 Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--needlegrass, manzanita, mountain brome, whitethorn ceanothus, snowbrush ceanothus
 Site index: Jeffrey pine--112 at an age base of 100 years
 Additional forest note: Dunning site class: I
 Additional forest note: Cactus site index: 78

Typical profile:

Surface rock fragments: About 15 percent boulders, 5 percent stones
 Layer 1--0 to 8 inches; very bouldery loam
 Layer 2--8 to 26 inches; very gravelly loam
 Layer 3--26 to 30 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Permeability class (root zone): Moderate
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: None assigned

Component Description

Tahand and similar soils

Landform: Backslopes of plateaus
 Slope: 5 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, white fir,
 Forest understory--whitethorn ceanothus, manzanita,
 mountain brome, snowbrush ceanothus, needlegrass
 Site index: Jeffrey pine--107 at an age base of 100 years
 Site index: White fir--60 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 65

Typical profile:

Surface rock fragments: About 5 percent cobbles, 20 percent stones
 Layer 1--0 to 3 inches; gravelly sandy loam
 Layer 2--3 to 8 inches; sandy loam
 Layer 3--8 to 15 inches; gravelly loam
 Layer 4--15 to 34 inches; gravelly clay loam
 Layer 5--34 to 46 inches; very gravelly clay loam
 Layer 6--46 to 56 inches; weathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 1 inch thick
 Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 6 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rubble land

Composition: 0 to 8 percent
 Slope: 15 to 30 percent
 Landform: Plateaus
 Ecological site: None assigned

Rock outcrop

Composition: 0 to 7 percent
 Slope: 15 to 30 percent
 Landform: Plateaus
 Ecological site: None assigned

Management

Major uses: Timber production
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

399--Weste-Rock outcrop complex, 30 to 50 percent slopes

Map Unit Setting

MLRA: 22
 Landscape: Mountains
 Elevation: 5,300 to 5,800
 Precipitation: 30 to 40 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Weste very gravelly sandy loam, 30 to 50 percent slopes--65 percent
 Rock outcrop unweathered bedrock, 30 to 50 percent slopes--15 percent
 Swainow stony sandy loam, 30 to 50 percent slopes--10 percent
 Woodwest very stony sandy loam, 2 to 5 percent slopes--10 percent

Component Description

Weste very gravelly sandy loam and similar soils

Landform: Backslopes of mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Forest canopy--Jeffrey pine, white fir,
Forest understory--whitethorn ceanothus, greenleaf
manzanita, squawcarpet

Site index: Jeffrey pine--82 at an age base of 100 years

Additional forest note: Dunning site class: III

Additional forest note: Cactus site index: 61

Typical profile:

Layer 1--0 to 14 inches; very gravelly sandy loam

Layer 2--14 to 24 inches; very gravelly loam

Layer 3--24 to 34 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical
Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 2
inches thick

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 20 to 40
inches

Permeability class (root zone): Moderate

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: None assigned

Component Description

Rock outcrop

Landform: Mountains

Slope: 30 to 50 percent

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 60 inches

Interpretive Groups

Nonirrigated land capability: 8

Ecological site: None assigned

Typical soil descriptions including ranges in characteristics
are in the "Classification of the Soils" section.

Contrasting Inclusions

Swainow stony sandy loam and similar soils

Composition: 0 to 10 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains, ridges

Typical vegetation: Forest canopy--Jeffrey pine, sugar
pine, white fir; Forest understory--manzanita,
snowbrush ceanothus, whitethorn ceanothus, mountain
brome, needlegrass

Ecological site: None assigned

Woodwest very stony sandy loam and similar soils

Composition: 0 to 10 percent

Slope: 2 to 5 percent

Landform: Ridges

Typical vegetation: Forest canopy--Jeffrey pine, white fir,

Forest understory--needlegrass, squawcarpet,

greenleaf manzanita, rabbitbrush

Ecological site: None assigned

Management

Major uses: Timber production

For information about managing this map unit, see the
following sections and associated tables in Part II of
this publication:

"Range" section

"Forest land" section

"Engineering" section

"Soil Properties" section

400--Whitinger-Devada association, 5 to 30 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Plateau

Elevation: 5,000 to 6,000

Precipitation: 12 to 16 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Whitinger stony loam, 5 to 30 percent slopes--45 percent

Devada very cobbly loam, 5 to 30 percent slopes--35
percent

Rubble land, 15 to 30 percent slopes--5 percent

Rock outcrop, 15 to 30 percent slopes--5 percent

Jauriga gravelly loam, 5 to 15 percent slopes--5 percent

Buckbay gravelly loam, 5 to 30 percent slopes--5 percent

Component Description

Whitinger stony loam and similar soils

Landform: Plateaus

Slope: 5 to 30 percent

Parent material: Colluvium derived from basalt and
residuum weathered from basalt

Typical vegetation: Forest canopy--western juniper,

Forest understory--bluebunch wheatgrass, mountain
big sagebrush, Idaho fescue, antelope bitterbrush,
needlegrass

Site index: Western juniper--25 at an age base of 50 years

Typical profile:

Surface rock fragments: About 5 percent cobbles, 5 percent stones
 Layer 1--0 to 6 inches; stony loam
 Layer 2--6 to 15 inches; very stony clay loam
 Layer 3--15 to 26 inches; very cobbly clay loam
 Layer 4--26 to 36 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderately slow
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R021XE174CA--Stony loam 12-16

Component Description**Devada very cobbly loam and similar soils**

Landform: Plateaus
 Slope: 5 to 30 percent
 Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite
 Typical vegetation: Antelope bitterbrush, Thurber needlegrass, bluegrass, Idaho fescue, low sagebrush, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 50 percent cobbles, 5 percent stones
 Layer 1--0 to 7 inches; very cobbly loam
 Layer 2--7 to 15 inches; gravelly clay
 Layer 3--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE173CA--Shallow stony loam 12-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Rubble land**

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Mountains, plateaus
 Ecological site: None assigned

Rock outcrop

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Mountains, plateaus
 Ecological site: None assigned

Jauriga gravelly loam and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 15 percent, south aspect
 Landform: Backslopes of mountains
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, needlegrass
 Ecological site: R021XE176CA--Loam 12-16

Buckbay gravelly loam and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 30 percent, north aspect
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy--western juniper, Forest understory--bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, needlegrass
 Ecological site: R021XE176CA--Loam 12-16

Management

Major uses: Livestock grazing and juniper wood products
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Forest land" section
 "Engineering" section
 "Soil Properties" section

401--Whorled-Almanor complex, 15 to 30 percent slopes***Map Unit Setting***

MLRA: 22
 Landscape: Mountains
 Elevation: 5,100 to 5,400

Precipitation: 30 to 40 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Whorled very gravelly sandy loam, 15 to 30 percent slopes--45 percent
 Almanor very gravelly sandy loam, 15 to 30 percent slopes--35 percent
 Tahand gravelly sandy loam, 15 to 30 percent slopes--8 percent
 Whorled very gravelly sandy loam, 15 to 30 percent slopes, very stony--7 percent
 Rock outcrop, 15 to 30 percent slopes--5 percent

Component Description

Whorled very gravelly sandy loam and similar soils

Landform: Mountains
 Slope: 15 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--sedge, snowberry, squawcarpet, whitethorn ceanothus, needlegrass, wildrye, serviceberry
 Site index: White fir--60 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 67

Typical profile:

Layer 1--0 to 5 inches; very gravelly sandy loam
 Layer 2--5 to 27 inches; extremely gravelly sandy loam
 Layer 3--27 to 31 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 3 inches thick
 Runoff: Medium
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 1.4 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Component Description

Almanor very gravelly sandy loam and similar soils

Landform: Mountains

Slope: 15 to 30 percent
 Parent material: Volcanic ash and colluvium derived from volcanic rock
 Typical vegetation: Forest canopy--Jeffrey pine, incense cedar, sugar pine, white fir; Forest understory--sedge, swamp carex, greenleaf manzanita, squawcarpet, pipsissewa, snowberry, whitethorn ceanothus, serviceberry
 Site index: Jeffrey pine--83 at an age base of 100 years
 Site index: White fir--61 at an age base of 50 years
 Additional forest note: Dunning site class: II
 Additional forest note: Cactus site index: 66

Typical profile:

Layer 1--0 to 5 inches; very gravelly sandy loam
 Layer 2--5 to 17 inches; very gravelly sandy loam
 Layer 3--17 to 40 inches; extremely gravelly sandy loam
 Layer 4--40 to 50 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with duff 3 inches thick
 Runoff: Medium
 Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches
 Permeability class (root zone): Moderately rapid
 Available water capacity: About 4 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: None assigned

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Tahand and similar soils

Composition: 0 to 8 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Forest canopy--Jeffrey pine, white fir, Forest understory--mountain brome, whitethorn ceanothus, manzanita, snowbrush ceanothus, needlegrass
 Ecological site: None assigned

Whorled and similar soils

Composition: 0 to 7 percent
 Slope: 15 to 30 percent
 Landform: Mountains

Typical vegetation: Forest canopy--Jeffrey pine, white fir,
Forest understory--whitethorn ceanothus, serviceberry,
sedge, wildrye, needlegrass, snowberry, squawcarpet
Ecological site: None assigned

Rock outcrop

Composition: 0 to 5 percent
Slope: 15 to 30 percent
Landform: Mountains
Ecological site: None assigned

Management

Major uses: Timber production
For information about managing this map unit, see the
following sections and associated tables in Part II of
this publication:
"Range" section
"Forest land" section
"Engineering" section
"Soil Properties" section

402--Wylo-Bucklake association, 9 to 50 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Mountains
Elevation: 5,300 to 5,600
Precipitation: 9 to 12 inches
Air temperature: 46 to 48 degrees Fahrenheit
Frost-free period: 80 to 100 days

Composition

Wylo very stony loam, 9 to 30 percent slopes--50 percent
Bucklake very stony loam, 30 to 50 percent slopes--35 percent
Fivesprings very stony loam, 15 to 50 percent slopes--5 percent
Longcreek very stony loam, 15 to 50 percent slopes--5 percent
Rubble land, 30 to 50 percent slopes--3 percent
Rock outcrop, 30 to 50 percent slopes--2 percent

Component Description

Wylo very stony loam and similar soils

Landform: Mountains
Slope: 9 to 30 percent
Parent material: Colluvium derived from basalt and
residuum weathered from basalt
Typical vegetation: Thurber needlegrass, bluebunch
wheatgrass, Lahontan sagebrush

Typical profile:

Surface rock fragments: About 15 percent cobbles, 15 percent stones

Layer 1--0 to 7 inches; very stony loam
Layer 2--7 to 11 inches; gravelly clay loam
Layer 3--11 to 15 inches; cobbly clay
Layer 4--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
Permeability class (root zone): Slow
Available water capacity: About 2 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XF083CA--Shallow stony clay loam 9-12

Component Description

Bucklake very stony loam and similar soils

Landform: Mountains
Slope: 30 to 50 percent, south aspect
Parent material: Colluvium derived from andesite and
basalt and residuum weathered from basalt or andesite
Typical vegetation: Bluebunch wheatgrass, mountain big
sagebrush, rabbitbrush, basin wildrye, antelope
bitterbrush, Thurber needlegrass

Typical profile:

Surface rock fragments: About 20 percent cobbles, 15 percent stones
Layer 1--0 to 8 inches; very stony loam
Layer 2--8 to 12 inches; gravelly clay loam
Layer 3--12 to 24 inches; gravelly clay
Layer 4--24 to 34 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
Permeability class (root zone): Slow
Available water capacity: About 3 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
Ecological site: R023XF082CA--Stony loam 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Fivesprings very stony loam and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent, northwest to north aspects

Landform: Backslopes of mountains

Typical vegetation: Basin wildrye, Thurber needlegrass, antelope bitterbrush, mountain big sagebrush, bluebunch wheatgrass

Ecological site: R023XF082CA--Stony loam 9-12

Longcreek very stony loam and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, basin wildrye, antelope bitterbrush, Thurber needlegrass

Ecological site: R023XF082CA--Stony loam 9-12

Rubble land

Composition: 0 to 3 percent

Slope: 30 to 50 percent

Landform: Mountains

Ecological site: None assigned

Rock outcrop

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Mountains

Ecological site: None assigned

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

403--Wylo-Diaz-Brubeck association, 2 to 30 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 4,300 to 4,600

Precipitation: 9 to 12 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Wylo very stony loam, 2 to 9 percent slopes--40 percent

Diaz very cobbly silt loam, 9 to 30 percent slopes--30 percent

Brubeck very cobbly clay, 2 to 9 percent slopes--15 percent

Rock outcrop, 15 to 30 percent slopes--5 percent

Cewat very stony fine sandy loam, 5 to 15 percent slopes--5 percent

McConnel gravelly fine sandy loam, 2 to 15 percent slopes--5 percent

Component Description

Wylo very stony loam and similar soils

Landform: Plateaus

Slope: 2 to 9 percent

Parent material: Colluvium derived from basalt and residuum weathered from basalt

Typical vegetation: Bluebunch wheatgrass, Thurber needlegrass, Lahontan sagebrush

Typical profile:

Surface rock fragments: About 15 percent cobbles, 15 percent stones

Layer 1--0 to 7 inches; very stony loam

Layer 2--7 to 11 inches; gravelly clay loam

Layer 3--11 to 15 inches; cobbly clay

Layer 4--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XF083CA--Shallow stony clay loam 9-12

Component Description

Diaz very cobbly silt loam and similar soils

Landform: Plateaus

Slope: 9 to 30 percent

Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite

Typical vegetation: Desert needlegrass, Thurber needlegrass, green ephedra, littleleaf horsebrush,

bluebunch wheatgrass, bottlebrush squirreltail, Indian ricegrass, big sagebrush

Typical profile:

Surface rock fragments: About 30 percent cobbles, 10 percent stones

Layer 1--0 to 3 inches; very cobbly silt loam

Layer 2--3 to 7 inches; silty clay loam

Layer 3--7 to 25 inches; silty clay

Layer 4--25 to 32 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XG053CA--Stony loam 6-9

Component Description

Brubeck very cobbly clay and similar soils

Landform: Plateaus

Slope: 2 to 9 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bottlebrush squirreltail, beardless wildrye, littleleaf horsebrush, big sagebrush, western wheatgrass, Thurber needlegrass, rubber rabbitbrush

Typical profile:

Surface rock fragments: About 30 percent cobbles, 10 percent stones

Layer 1--0 to 2 inches; very cobbly clay

Layer 2--2 to 32 inches; clay

Layer 3--32 to 42 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 5 inches

Present flooding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XF084CA--Clay upland 9-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Plateaus

Ecological site: None assigned

Cewat very stony fine sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 5 to 15 percent

Landform: Fan remnants

Typical vegetation: Bluebunch wheatgrass, Wyoming big sagebrush, green ephedra, bottlebrush squirreltail, Indian ricegrass, littleleaf horsebrush, Thurber needlegrass, desert needlegrass

Ecological site: R023XG053CA

McConnel gravelly fine sandy loam and similar soils

Composition: 0 to 5 percent

Slope: 2 to 15 percent

Landform: Fan remnants

Typical vegetation: Thurber needlegrass, bottlebrush squirreltail, Indian ricegrass, spiny hopsage, bluebunch wheatgrass, yellow rabbitbrush, Wyoming big sagebrush

Ecological site: R026XF052CA--Granitic upland 9-12

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Crops and Pasture" section

"Engineering" section

"Soil Properties" section

404--Wylo-Pickup-Bucklake association, 9 to 50 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Mountains

Elevation: 4,400 to 5,600

Precipitation: 9 to 12 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Wylo very stony loam, 9 to 30 percent slopes--40 percent
 Pickup very stony loam, 30 to 50 percent slopes--30 percent
 Bucklake very stony loam, 30 to 50 percent slopes--20 percent
 Longcreek very stony loam, 15 to 50 percent slopes--3 percent
 Fivesprings very stony loam, 15 to 50 percent slopes--3 percent
 Rubble land, 30 to 50 percent slopes--2 percent
 Rock outcrop, 30 to 50 percent slopes--2 percent

Component Description**Wylo very stony loam and similar soils**

Landform: Mountains
 Slope: 9 to 30 percent
 Parent material: Colluvium derived from basalt and residuum weathered from basalt
 Typical vegetation: Lahontan sagebrush, bluebunch wheatgrass, Thurber needlegrass

Typical profile:

Surface rock fragments: About 15 percent cobbles, 15 percent stones
 Layer 1--0 to 7 inches; very stony loam
 Layer 2--7 to 11 inches; gravelly clay loam
 Layer 3--11 to 15 inches; cobbly clay
 Layer 4--15 to 19 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
 Permeability class (root zone): Slow
 Available water capacity: About 2 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XF083CA--Shallow stony clay loam 9-12

Component Description**Pickup very stony loam and similar soils**

Landform: Mountains
 Slope: 30 to 50 percent, north aspect
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Thurber needlegrass, bluebunch wheatgrass, Lahontan sagebrush

Typical profile:

Surface rock fragments: About 15 percent cobbles, 15 percent stones
 Layer 1--0 to 10 inches; very stony loam
 Layer 2--10 to 26 inches; very gravelly clay
 Layer 3--26 to 30 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XF083CA--Shallow stony clay loam 9-12

Component Description**Bucklake very stony loam and similar soils**

Landform: Mountains
 Slope: 30 to 50 percent, south aspect
 Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite
 Typical vegetation: Bluebunch wheatgrass, rabbitbrush, antelope bitterbrush, mountain big sagebrush, basin wildrye, Thurber needlegrass

Typical profile:

Surface rock fragments: About 15 percent cobbles, 20 percent stones
 Layer 1--0 to 8 inches; very stony loam
 Layer 2--8 to 12 inches; gravelly clay loam
 Layer 3--12 to 24 inches; gravelly clay
 Layer 4--24 to 34 inches; unweathered bedrock

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Permeability class (root zone): Slow
 Available water capacity: About 3 inches
 Present flooding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XF082CA--Stony loam 9-12

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Longcreek very stony loam and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent, north aspect

Landform: Backslopes of mountains

Typical vegetation: Antelope bitterbrush, basin wildrye, mountain big sagebrush, bluebunch wheatgrass, Thurber needlegrass

Ecological site: R023XF082CA--Stony loam 9-12

Fivesprings very stony loam and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent, northwest to north aspects

Landform: Backslopes of mountains

Typical vegetation: Bluebunch wheatgrass, Thurber needlegrass, antelope bitterbrush, basin wildrye, mountain big sagebrush

Ecological site: R023XF082CA--Stony loam 9-12

Rubble land

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Mountains

Ecological site: None assigned

Rock outcrop

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Mountains

Ecological site: None assigned

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

405--Xerolls-Aquolls complex, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Alluvial plain

Elevation: 4,000 to 4,550

Precipitation: 10 to 35 inches

Air temperature: 44 to 52 degrees Fahrenheit

Frost-free period: 60 to 130 days

Composition

Xerolls loamy coarse sand, 0 to 2 percent slopes--55 percent

Aquolls gravelly sandy loam, 0 to 2 percent slopes--45 percent

Component Description

Xerolls loamy coarse sand and similar soils

Landform: Lakeshores

Slope: 0 to 2 percent

Parent material: Alluvium derived from granite

Typical profile:

Layer 1--0 to 11 inches; loamy coarse sand

Layer 2--11 to 60 inches; stratified coarse sand to loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Negligible

Permeability class (root zone): Slow

Salinity: Saline within 40 inches

Available water capacity: About 5 inches

Present flooding: None

Water table: Present

Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 5w

Ecological site: None assigned

Component Description

Aquolls gravelly sandy loam and similar soils

Landform: Lakeshores

Slope: 0 to 2 percent

Parent material: Alluvium derived from mixed rocks

Typical profile:

Layer 1--0 to 7 inches; gravelly sandy loam

Layer 2--7 to 38 inches; gravelly loam

Layer 3--38 to 60 inches; very gravelly sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Surface features: The surface is covered with a mat of roots and organic material, 1 inch thick

Runoff: Low

Permeability class (root zone): Moderate

Salinity: Saline within 40 inches

Available water capacity: About 5 inches

Present flooding: None
 Present ponding: Frequent
 Water table: Present
 Natural drainage class: Very poorly drained

Interpretive Groups

Nonirrigated land capability: 5w
 Ecological site: None assigned

Management

Major uses: Wildlife habitat and livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Engineering" section
 "Soil Properties" section

406--Yobe silt loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Lake plain
 Elevation: 4,000 to 4,300
 Precipitation: 6 to 9 inches
 Air temperature: 49 to 51 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Yobe silt loam, 0 to 2 percent slopes--85 percent
 Mazuma fine sandy loam, 0 to 2 percent slopes--8 percent
 Zorravista loamy sand, 0 to 2 percent slopes--7 percent

Component Description

Yobe silt loam and similar soils

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Lacustrine deposits
 Typical vegetation: Bluegrass, alkaligrass, rush, basin wildrye, western wheatgrass, inland saltgrass, black greasewood

Typical profile:

Layer 1--0 to 4 inches; silt loam
 Layer 2--4 to 60 inches; stratified very fine sandy loam to silty clay loam

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: High
 Permeability class (root zone): Slow
 Salinity: Saline within 40 inches
 Sodicity: Sodic within 40 inches

Available water capacity: About 8 inches
 Present flooding: Occasional
 Water table: Present
 Natural drainage class: Somewhat poorly drained

Interpretive Groups

Nonirrigated land capability: 7w
 Ecological site: R023XG058CA--Saline-sodic subirrigated 6-16

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Mazuma fine sandy loam and similar soils

Composition: 0 to 8 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Basin wildrye, black greasewood, bottlebrush squirreltail, seepweed, shadscale
 Ecological site: R023XG050CA--Saline-sodic flat 6-9

Zorravista loamy sand and similar soils

Composition: 0 to 7 percent
 Slope: 0 to 2 percent
 Landform: Dunes
 Typical vegetation: Littleleaf horsebrush, black greasewood, needleandthread, basin big sagebrush, basin wildrye, Indian ricegrass
 Ecological site: R023XG054CA

Management

Major uses: Livestock grazing
 For information about managing this map unit, see the following sections and associated tables in Part II of this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" section
 "Soil Properties" section

407--Zorravista loamy sand, 0 to 5 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Dune field
 Elevation: 4,000 to 4,500
 Precipitation: 6 to 9 inches
 Air temperature: 50 to 52 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Zorravista loamy sand, 0 to 5 percent slopes--85 percent

Cewat very stony fine sandy loam, 4 to 8 percent slopes--8 percent

Ardep fine sandy loam, 0 to 2 percent slopes--7 percent

Component Description

Zorravista loamy sand and similar soils

Landform: Dunes

Slope: 0 to 5 percent

Parent material: Eolian sands

Typical vegetation: Needleandthread, basin big sagebrush, black greasewood, littleleaf horsebrush, basin wildrye, Indian ricegrass

Typical profile:

Layer 1--0 to 4 inches; loamy sand

Layer 2--4 to 60 inches; stratified fine sand to sand to loamy fine sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Negligible

Permeability class (root zone): Very rapid

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Excessively drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R023XG054CA--Sandy terrace 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Cewat very stony fine sandy loam and similar soils

Composition: 0 to 8 percent

Slope: 4 to 8 percent

Landform: Fan remnants

Typical vegetation: Green ephedra, desert needlegrass, Thurber needlegrass, littleleaf horsebrush, bottlebrush squirreltail, Indian ricegrass, Wyoming big sagebrush, bluebunch wheatgrass

Ecological site: R023XG053CA--Stony loam 6-9

Ardep fine sandy loam and similar soils

Composition: 0 to 7 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Bottlebrush squirreltail, black greasewood, shadscale, bud sagebrush

Ecological site: R023XG046CA--Sodic flat 6-9

Management

Major uses: Livestock grazing

For information about managing this map unit, see the following sections and associated tables in Part II of this publication:

"Range" section

"Engineering" section

"Soil Properties" section

408--Zorravista sand, 2 to 15 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Dune field

Elevation: 4,000 to 4,100

Precipitation: 6 to 9 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Zorravista sand, 2 to 15 percent slopes--90 percent

Cewat very stony fine sandy loam, 9 to 15 percent slopes--10 percent

Component Description

Zorravista sand and similar soils

Landform: Dunes

Slope: 2 to 15 percent

Parent material: Eolian sands

Typical vegetation: Fourwing saltbush, rubber rabbitbrush, Indian ricegrass, basin wildrye, basin big sagebrush, black greasewood, spiny hopsage, littleleaf horsebrush, needleandthread

Typical profile:

Layer 1--0 to 4 inches; sand

Layer 2--4 to 60 inches; stratified fine sand to sand to loamy fine sand

See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

Component Properties and Qualities

Runoff: Very low

Permeability class (root zone): Very rapid

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Excessively drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XG049CA--Sand dunes 6-9

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Cewat very stony fine sandy loam and similar soils**

Composition: 0 to 10 percent

Slope: 9 to 15 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, bottlebrush
 squirreltail, desert needlegrass, Thurber needlegrass,
 littleleaf horsebrush, Wyoming big sagebrush, green
 ephedra, bluebunch wheatgrass

Ecological site: R023XG053CA--Stony loam 6-9

Management

Major uses: Livestock grazing and urban development

For information about managing this map unit, see the
 following sections and associated tables in Part II of
 this publication:

"Range" section

"Engineering" section

"Soil Properties" section

409--Water***Map Unit Setting***

MLRA: 23

Landscape: Basin

Elevation: 4,000 to 6,500

Composition

Water, 100 percent

Component Description**Water**

Landform: Depressions

Interpretive Groups

Nonirrigated land capability: Not determined

Ecological site: None assigned

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed below. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding,

wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units." (Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name.)

Prime Farmland Map Units

Map Symbol	Soil name
104	Ardep sandy loam, 0 to 2 percent slopes (Prime farmland if irrigated)
120	Blickenstaff sandy loam, 0 to 2 percent slopes (Prime farmland if irrigated)
143	Calpine sandy loam, 0 to 2 percent slopes (Prime farmland if irrigated)
144	Calpine sandy loam, 2 to 5 percent slopes (Prime farmland if irrigated)
145	Calpine, warm, 0 to 15 percent slopes (Prime farmland if irrigated)
205	Fordney loamy fine sand, 0 to 5 percent slopes (Prime farmland if irrigated)
206	Fordney loamy fine sand, wet, 0 to 2 percent slopes (Prime farmland if irrigated)
209	Fortsage fine sandy loam, 0 to 2 percent slopes (Prime farmland if irrigated)
210	Fortsage silt loam, 0 to 2 percent slopes (Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season)
215	Galeppi sandy loam, 2 to 5 percent slopes (Prime farmland if irrigated)
303	Orr sandy loam, 0 to 2 percent slopes (Prime farmland if irrigated)

- | | | | |
|-----|--|-----|--|
| 327 | Plinco gravelly sandy loam, 0 to 2 percent slopes (Prime farmland if irrigated) | 386 | Truckee loam, 0 to 2 percent slopes (Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season) |
| 365 | Springmeyer sandy loam, 0 to 5 percent slopes (Prime farmland if irrigated) | 387 | Truckee-Humboldt complex, 0 to 2 percent slopes (Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season) |
| 366 | Springmeyer sandy clay loam, 0 to 2 percent slopes (Prime farmland if irrigated) | | |
| 367 | Stacy fine sandy loam, 0 to 2 percent slopes (Prime farmland if irrigated) | | |

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (5, 6). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 22, "Classification of the Soils", shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Alfisol.

Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Xeralf *Xer*, meaning dry, plus *alf*, from Alfisol.

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Haploxeralfs *Hapl*, meaning minimal horizonation, plus *xeralfs*, the suborder of the Alfisols that has a xeric moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Haploxeralfs.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is coarse-loamy, mixed, superactive, frigid Typic Haploxeralfs.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (4). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (6) and in "Keys to Soil Taxonomy" (5). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

Almanor series

The Almanor series consists of deep, well drained soils on plateaus and mountains. These soils formed in mixed colluvium weathered from basalt, andesite, and volcanic ash. Slopes range from 2 to 30 percent.

Taxonomic class: Medial-skeletal, amorphic, frigid
Typic Haploxerands

Typical pedon: Almanor very gravelly sandy loam located in map unit 101, forestland. (Colors are for dry soils unless otherwise noted). The surface is covered by up to 3 inches of needles, twigs, and bark.

A—0 to 5 inches; brown (10YR 4/3) very gravelly sandy loam, dark brown (7.5YR 3/2) moist; moderate very fine and fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and common fine and medium roots; many very fine interstitial pores; 40 percent gravel; sodium fluoride pH (11.0); slightly acid (pH 6.1); clear wavy boundary.

Bw1—5 to 17 inches; brown (7.5YR 5/4) very gravelly sandy loam, dark reddish brown (5YR 3/4) moist; moderate fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine, fine and medium and common coarse roots; many very fine interstitial pores; 10 percent cobbles, 50 percent gravel; sodium fluoride pH (11.0); slightly acid (pH 6.1); clear wavy boundary.

Bw2—17 to 29 inches; strong brown (7.5YR 5/6) extremely gravelly sandy loam, dark brown (7.5YR 3/4) moist; weak fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common fine, medium and coarse roots; many very fine interstitial pores; 5 percent stones; 20 percent cobbles; 40 percent 5 to 75 mm gravel; 10 percent 2 to 5 mm gravel; sodium fluoride pH (10.5); slightly acid (pH 6.1); abrupt wavy boundary.

Bw3—29 to 40 inches; strong brown (7.5YR 5/6) extremely gravelly sandy loam, dark brown (7.5YR 3/4) moist; weak fine and medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common fine, medium and coarse roots; many very fine interstitial pores; 5 percent stones; 20 percent cobbles; 40 percent 5 to 75 mm gravel; 10 percent 2 to 5 mm gravel; sodium fluoride pH (10.5); slightly acid (pH 6.1); abrupt wavy boundary.

R—40 to 44 inches; hard massive basalt; few fractures; upper one inch has few horizontal fractures with some soil and roots in fractures.

Type location: About 7 miles northeast of Chester and 4.5 miles north of Hwy 36 near the Lassen National Forest boundary; about 500 feet east and 400 feet south of the northwest corner of Sec. 18, T.29 N., R.8 E.

Range in Characteristics:

Soil moisture: Usually dry from August to November, moist in some or all parts the rest of the time. Xeric moisture regime.

Soil temperature: 44 to 46 degrees F.

Solum thickness and depth to bedrock: 40 to 60 inches.

Control section:

Rock fragments—50 to 70 percent.

A horizon:

Hue—10YR, 7.5YR, 5YR.

Value—3 through 5 dry, 3 moist.

Chroma—2 through 4, dry or moist.

Texture—Very stony or very gravelly sandy loam.

Rock fragments—Mostly gravel, range from 40 to 60 percent.

Sodium fluoride pH—10.5 to 11.0.

Moist bulk density of the fine earth fraction—0.70 to 0.80 g/cc.

Organic matter—3 to 7 percent.

Bw horizon:

Hue—10YR, 7.5YR, 5YR.

Value—4 to 5 dry, 3 moist.

Chroma—4 through 6, dry and moist.

Sodium fluoride pH—9.6 to 11.0.

Moist bulk density of the fine earth fraction—0.80 to 0.85 g/cc.

Organic matter—1 to 4 percent.

Alomax series

The Alomax series consists of shallow, well drained soils on mountains. These soils formed in colluvium weathered from andesite or basalt. Slopes range from 30 to 50 percent.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Lithic Haploxerolls

Typical pedon: Alomax very stony sandy loam, located in map unit 102, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 3 inches; dark grayish brown (10YR 4/2) very stony sandy loam, very dark brown (10YR 2/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine and fine interstitial pores; 30 percent stones, 10 percent cobbles, and 10 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

A2—3 to 15 inches; grayish brown (10YR 5/2) extremely stony sandy loam, very dark brown (10YR 2/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine and fine interstitial pores; 20 percent stones, 20 percent cobbles and 30 percent gravel; slightly acid (pH 6.5); abrupt wavy boundary.

R—15 inches; hard fractured basalt.

Type location: about 7.2 miles east of the Big Mud Flat on Smoke Creek Ranch Road to the first south bound road at Bull Flat, then continue south past Bull Spring to Jenkins Spring, then 3.4 miles south on jeep trail along Pea Creek and 1,000 feet up the slope east of this trail; 2,220 feet north and 725 feet east of the southwest corner of Sec. 12, T.29 N., R.16 E.

Range in Characteristics:

Soil moisture: Usually dry August 1 to November 1, moist in some or all parts the rest of the time. Xeric moisture regime.

Soil temperature: 41 to 47 degrees F.

Depth to a lithic contact of basalt or andesite: 10 to 20 inches.

Rock fragments on the surface: Mostly cobbles and stones, range from 35 to 70 percent and average about 50 percent.

Reaction: Slightly acid or neutral.

A horizon:

Hue—7.5YR, 10YR.

Value—4 to 5 dry, 2 to 3 moist.

Chroma—2 to 3, dry or moist.

Texture—Very stony sandy loam, very cobbly sandy loam or extremely stony sandy loam.

Clay content—10 to 15 percent clay.

Rock fragments in the lower A horizon—65 to 80 percent.

Anawalt series

The Anawalt series consists of shallow, well drained soils on backslopes and summits of plateaus. These soils formed in residuum and colluvium weathered from basalt or andesite. Slopes range from 5 to 15 percent.

Taxonomic class: Clayey, smectitic, frigid Lithic Xeric Haplargids

Typical pedon: Anawalt very stony loam, located in map unit 103, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 2 inches; pale brown (10YR 6/3) very stony loam, dark brown (10YR 4/3) moist; moderate very thick platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; many very fine interstitial pores; 15 percent stones, 25 percent cobbles, and 5 percent gravel; neutral (pH 7.0); abrupt wavy boundary.

A2—2 to 4 inches; pale brown (10YR 6/3) very stony loam, dark brown (10YR 4/3) moist; strong thick platy structure parting to strong fine and medium angular blocky; slightly hard, very friable, sticky and plastic; common very fine and fine roots; many very fine interstitial pores; 15 percent stones, 25 percent cobbles, and 5 percent gravel; neutral (pH 7.0); abrupt smooth boundary.

Bt1—4 to 8 inches; brown (10YR 5/3) gravelly clay, dark brown (10YR 4/3) moist; strong fine and medium prismatic structure parting to moderate medium and coarse angular blocky; hard, friable, very sticky and very plastic; few very fine and fine, common medium and coarse roots; common very fine interstitial pores; many thin and moderately thick clay films on faces of peds and in pores; 5 percent cobbles and 10 percent gravel; neutral (pH 6.6); clear wavy boundary.

Bt2—8 to 16 inches; brown (7.5YR 5/4) gravelly clay, dark brown (7.5YR 4/4) moist; strong medium and coarse angular blocky structure; hard, firm, very sticky and very plastic; few fine and common medium and coarse roots; common very fine interstitial pores; many moderately thick and thick clay films on faces of peds and in pores; 5 percent cobbles and 10 percent gravel; neutral (pH 6.6); abrupt wavy boundary.

R—16 inches; hard basalt.

Type location: About 0.3 miles east of Horne Ranch Road at a point 0.5 miles south of crossing of Painters Creek; 250 feet north and 1,875 feet west of the southeast corner of Section 13, T.34 N., R.16 E.

Range in Characteristics:

Soil moisture: The soils are usually dry but are moist between depths of 4 and 12 inches for 60 days or more out of the 120 days following the winter solstice and are moist more than 25 percent of the time that the soil temperature is 41 degrees F° or more. Aridic moisture regime that borders on xeric.

Soil temperature: 42 to 47 degrees F.

Depth to base of argillic horizon: 12 to 20 inches.

Depth to bedrock: 12 to 20 inches to a lithic contact; In some pedons the bedrock is fractured with secondary carbonates or opaline silica on the lower sides of rock fragments.

Control section:

Clay content—35 to 60 percent;
 Rock fragments—Averages 5 to 30 percent, mainly pebbles. Lithology of fragments are volcanic rocks such as basalt.
 Reaction—Neutral through moderately alkaline.
 Abrupt textural change—An abrupt horizon boundary is normally present between the A2 and the Bt1 horizon accompanied by an abrupt increase in clay content of between 15 and 25 percent absolute.

A1 and A2 horizons:

Value—5 or 6 dry, 2 through 4 moist; when the upper 7 inches of the epipedon is mixed, the dry value is 6.
 Chroma—2 through 4, dry or moist.

Bt1 and Bt2 horizons:

Hue—10YR or 7.5YR.
 Value—3 through 6 dry, 3 or 4 moist.
 Chroma—2 through 6, dry or moist.
 Texture—Clay, gravelly silty clay, gravelly silty clay loam, gravelly clay, gravelly clay loam, cobbly clay loam, or cobbly clay.
 Clay content—35 to 60 percent.
 Consistence—Firm or very firm, moist.
 Other features—Some pedons have accumulations of secondary silica as pendants on rock fragments.

Aquolls

Aquolls consist of very deep, very poorly drained soils on lake shores. These soils formed in mixed alluvium. Slopes range from 0 to 2 percent.

Taxonomic class: Aquolls

Representative pedon: Aquolls gravelly sandy loam, located in map unit 405, pasture. (Colors are for dry soils unless otherwise noted).

A1—0 to 7 inches; gray (10YR 5/1) gravelly sandy loam, black (10YR 2/1) moist; moderate very fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; common very fine interstitial pores; common fine distinct dark brown mottles; 15 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

A2—7 to 22 inches; gray (10YR 5/1) gravelly loam, very dark gray (10YR 3/1) moist; common very fine and fine subangular blocky structure; slightly hard, very friable, sticky and plastic; few very fine roots; common

very fine interstitial pores; common fine distinct dark brown mottles; 15 percent gravel; neutral (pH 6.8); clear wavy boundary.

AC—22 to 38 inches; grayish brown (10YR 5/2) gravelly loam, very dark brown (10YR 2/2) moist; weak very fine and fine subangular blocky structure; slightly hard, very friable, sticky and plastic; no roots; common very fine interstitial pores; few fine distinct very dark grayish brown mottles; 15 percent gravel; neutral (pH 7.0); clear wavy boundary.

2C—38 to 60 inches; very gravelly sand the color of its mineral grains; single grain; loose, nonsticky and nonplastic; no roots; many interstitial pores; 50 percent gravel; neutral (pH 7.0).

Type location: About 1.0 mile east of the Chester airport hangars; 0.7 mile south of sewage disposal ponds on First Avenue and 0.3 mile east of First Avenue; 1,600 feet south and 2,200 feet east of the northwest corner of Sec. 17, T.28 N., R.7 E.

Range in Characteristics:

Soil moisture: Aquic moisture regime.

A horizon:

Value—2 or 3 moist.
 Chroma—1 to 2 moist.

AC horizon:

Texture—Gravelly sandy loam or gravelly loam.

Ardep series

The Ardep series consists of very deep, well drained, and moderately well drained soils on lake terraces. These soils formed in mixed lacustrine sediments. Slopes range from 0 to 5 percent.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Durinodic Xeric Haplocalcids

Typical pedon: Ardep sandy loam, located in map unit 108, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 2 inches; pale brown (10YR 6/3) sandy loam, dark brown (10YR 3/3) moist; moderate very thin and thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine vesicular and interstitial pores; strongly effervescent with disseminated lime; calcium

carbonate equivalent is 5 percent; moderately alkaline (pH 8.0); clear wavy boundary.

A2—2 to 5 inches; pale brown (10YR 6/3) sandy loam, dark brown (10YR 4/3) moist; moderate thin and medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine vesicular and interstitial pores; strongly effervescent with disseminated lime; calcium carbonate equivalent is 12 percent; moderately alkaline (pH 8.0); clear wavy boundary.

Bkq1—5 to 11 inches; light gray (2.5Y 7/2) loam, olive brown (2.5Y 4/4) moist; strong fine and medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine and few fine and medium roots; common very fine tubular pores; 20 percent 5 to 15 mm hard firm durinodes; common fine soft filaments and threads of lime; violently effervescent with disseminated lime; calcium carbonate equivalent is 19 percent; moderately alkaline (pH 8.0); clear wavy boundary.

Bkq2—11 to 25 inches; white (2.5Y 8/2) loam, light olive brown (2.5Y 5/3) moist; strong medium and coarse subangular blocky structure; slightly hard and hard, very friable and friable, slightly sticky and slightly plastic; few fine and medium roots; common very fine tubular pores; 50 percent 10 to 25 mm hard firm durinodes; common fine soft filaments and threads of lime; violently effervescent with disseminated lime; calcium carbonate equivalent is 20 percent; moderately alkaline (pH 8.0); clear wavy boundary.

Ck1—25 to 36 inches; pale yellow (5Y 8/3) loam, olive brown (2.5Y 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few fine, medium and coarse roots; common very fine tubular pores; violently effervescent with disseminated lime; calcium carbonate equivalent is 20 percent; moderately alkaline (pH 8.0); clear wavy boundary.

Ck2—36 to 60 inches; pale yellow (2.5Y 7/4) stratified sand to fine sandy loam, olive brown (2.5Y 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; no roots; many very fine interstitial pores; common fine distinct reddish yellow (7.5YR 7/6) relict mottles, brown (7.5YR 4/4) moist; violently effervescent with disseminated lime; calcium carbonate equivalent is 10 percent; electrical conductivity is 11 mmhos; sodium adsorption ratio is 29; moderately alkaline (pH 8.0).

Type location: About 0.75 mile east of the Sierra Army Depot; about 0.3 mile north of the Western Pacific railroad tracks and 0.25 mile southeast along trail from its intersection with north-south trail, and south of trail; about 1,100 feet west and 2,100 feet north of the southeast corner of Sec. 33, T.27 N., R.17 E.

Range in Characteristics:

Soil moisture: Usually dry from June 1 to November 15, moist the rest of the time in all or part of the area.

Aridic moisture regime bordering on Xeric.

Soil temperature: 53 to 56 degrees F.

Depth to the Bkq horizon: 5 to 22 inches.

Control section:

Texture—Loam, sandy loam or fine sandy loam.

Clay content—8 to 15 percent.

Sand content—45 to 65 percent.

Reaction—Moderately to strongly alkaline.

A horizon:

Value—6 dry, 3 or 4 moist.

Chroma—2 to 3, dry or moist.

Texture—Loam, sandy loam, fine sandy loam, or very fine sand.

Electrical conductivity—0 to 8.

Bkq horizon:

Value—6 to 8 dry, 4 to 5 moist.

Chroma—2 through 4 dry or moist.

Durinodes—30 to 50 percent but range from 20 to 50 percent in any one horizon.

Texture—Sandy loam, loam, silt loam, fine sandy loam, or very fine sandy loam.

Electrical conductivity—0 to 8.

Calcium carbonate equivalent—15 to 22 percent.

C horizon:

Hue—2.5Y, 5Y.

Value—7 to 8 dry, 4 to 5 moist.

Chroma—3 to 4, dry or moist.

Texture—Stratified loam in the upper 5 to 10 inches and fine sandy loam, very fine sand, fine sand or sand below.

Electrical conductivity—4 to 12.

SAR—10 to 30. Alkali phases have SAR from 30 to 100.

Artray series

The Artray series consists of very deep, poorly drained soils on alluvial fans. These soils formed in alluvium from granite. Slopes range from 2 to 9 percent.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Cumulic Endoaquolls

Typical pedon: Artray sandy loam, located in map unit 109, pasture. (Colors are for dry soils unless otherwise noted).

A1—0 to 4 inches; grayish brown (2.5Y 5/2) sandy loam, very dark grayish brown (2.5Y 3/2) moist; common fine prominent strong brown (7.5YR 5/6) mottles, dark brown (7.5YR 3/4) moist; moderate fine and medium angular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and many fine roots; common very fine interstitial pores; 14 percent gravel, 2 to 5 mm across; slightly acid (pH 6.1); clear wavy boundary.

A2—4 to 9 inches; variegated grayish brown (10YR 5/2) sandy loam, very dark grayish brown (10YR 3/2) moist; moderate medium and coarse angular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine, fine and medium roots; common very fine interstitial pores; 14 percent gravel, 2 to 5 mm across; slightly acid (pH 6.1); clear wavy boundary.

A3—9 to 14 inches; grayish brown (10YR 5/2) coarse sandy loam, very dark gray (10YR 3/1) moist; few fine distinct strong brown (7.5YR 5/6) mottles, dark brown (7.5YR 3/4) moist; moderate coarse angular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine and many medium roots; many very fine interstitial pores; 14 percent gravel 2 to 5 mm across; slightly acid (pH 6.1); clear wavy boundary.

A4—14 to 33 inches; grayish brown (10YR 5/2) coarse sandy loam, very dark grayish brown (10YR 3/2) moist; many medium distinct strong brown (7.5YR 5/6) mottles, dark brown (7.5YR 3/4) moist; moderate coarse angular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine and few medium roots; common very fine interstitial pores; 14 percent gravel, 2 to 5 mm across; slightly acid (pH 6.1); clear wavy boundary.

C1—33 to 48 inches; pale brown (10YR 6/3) coarse sandy loam, brown (10YR 4/3) moist; common medium distinct yellowish brown (10YR 5/6) mottles, dark yellowish brown (10YR 4/6) moist; weak medium and coarse angular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine interstitial pores; few iron concretions about 8 mm across; 10 percent gravel 2 to 5 mm across; neutral (pH 7.0); clear wavy boundary.

C2—48 to 60 inches; very pale brown (10YR 7/3) coarse sand, brown (10YR 5/3) and yellowish brown (10YR 5/4) moist; single grain; loose, nonsticky and nonplastic; common very fine interstitial pores; 14 percent gravel, 2 to 5 mm across; neutral (pH 7.0).

Type location: About 1.3 miles northwest of Milford on Hwy 395 and 400 feet northeast of the highway on the north side of the fence; about 2,500 feet west and

2,400 feet north of the southeast corner of Sec. 22, T.27 N., R.14 E.

Range in Characteristics:

Soil moisture: The soil is saturated between the depths of 0 and 20 inches from October through July and between the depths of 20 and 40 inches from August through September. Aquic moisture regime.

Soil temperature: 47 to 50 degrees F.

Control section:

Texture—Sandy loam or coarse sandy loam with 5 to 15 percent clay.

Rock fragments—0 to 15 percent, mostly gravel.

Depth to mottles—0 to 40 inches.

A horizon:

Hue—10YR, 2.5Y, N.

Value—4 to 5 dry, 2 to 3 moist.

Chroma—0 to 2, dry or moist.

C horizon:

Hue—10YR, 2.5Y, 5GY.

Value—6 to 7 dry, 4 to 5 moist.

Chroma—1 to 3, dry or moist.

Texture—Coarse sand, coarse sandy loam, or sandy loam.

Badenaugh series

The Badenaugh series consists of very deep well drained soils on fan remnants. These soils formed in material weathered from mixed alluvium. Slopes range from 5 to 15 percent.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Aridic Argixerolls

Typical pedon: Badenaugh stony sandy loam, located in map unit 110, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 13 inches; brown (10YR 5/3) stony sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; many very fine tubular pores; 5 percent stones; 3 percent cobbles; 10 percent gravel; neutral (pH 7.0); clear smooth boundary.

Bt1—13 to 29 inches; yellowish brown (10YR 5/4) very gravelly sandy clay loam, dark brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few

very fine and fine roots; many very fine tubular pores; many moderately thick clay films on faces of peds; 10 percent cobbles; 30 percent gravel; neutral (pH 7.0); clear smooth boundary.

Bt2—29 to 40 inches; brown (7.5YR 5/4) very cobbly sandy clay loam, dark brown (7.5YR 4/4) moist; weak medium subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine tubular pores; common thin clay films on faces of peds; 40 percent cobbles; 20 percent gravel; neutral (pH 7.2); gradual smooth boundary.

Bt3—40 to 60 inches; brown (7.5YR 5/4) very cobbly sandy loam, strong brown (7.5YR 5/4) moist; massive; hard, very friable, slightly sticky and slightly plastic; few medium roots; many very fine interstitial pores; few clay films on cobbles; 30 percent cobbles; 25 percent gravel; neutral (pH 7.3).

Type location: About 1.5 miles south of Doyle; about 1,700 feet east and 1,400 feet south of the northwest corner of section 20, T.25 N., R.17 E.

Range in Characteristics:

Soil moisture: Usually dry more than half the time that the soil temperature is over 41 degrees. It is moist in some or all parts the rest of the year, aridic moisture regime that borders on xeric.

Soil temperature: 47 to 51 degrees F.

Mollic epipedon thickness: 8 to 12 inches, includes the Bt1 horizon and transitional BA_t horizons.

Depth to base of argillic horizon: More than 60 inches.

Control section:

Clay content—25 to 35 percent.

Rock fragments—35 to 50 percent, mainly cobbles.

A horizon:

Hue—7.5YR or 10YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Rock fragments—35 to 50 percent.

Structure—Platy, granular, or subangular blocky.

Reaction—Slightly acid or neutral.

Organic matter content—1 to 3 percent.

Other features—Some pedons have 10 to 30 percent cobbles on the soil surface.

Bt1, Bt2, and Bt3 horizons:

Hue—7.5YR or 10YR.

Value—4 through 6 dry, 2 through 4 moist.

Chroma—1 through 4 dry, 2 through 4 moist.

Texture—Very cobbly clay loam or very cobbly sandy clay loam. Some pedons have very gravelly sandy clay loam in thin subhorizons.

Rock fragments—35 to 50 percent.

Reaction—Moderately acid to neutral.

Organic matter content—0.5 to 3 percent.

Other features—10 to 15 percent coarse sand and very coarse sand.

Bt4 and Bt5 horizons (when present):

Hue—7.5YR or 10YR.

Value—4 through 7 dry, 3 through 5 moist.

Chroma—2 through 6, dry or moist.

Texture—Very cobbly sandy loam, extremely gravelly sandy loam, or extremely cobbly sandy clay loam.

Clay content—15 to 30 percent.

Rock fragments—50 to 80 percent.

Reaction—Moderately acid to neutral.

Other features—Some pedons may have horizons weakly cemented by silica below 40 inches.

Baileycreek series

The Baileycreek series consists of moderately deep, well drained soils on mountain back slopes and plateaus.

These soils formed in residuum and colluvium

weathered from basalt, andesite and volcanic ash.

Slopes range from 5 to 50 percent.

Taxonomic class: Loamy-skeletal, isotic, frigid Andic Haploxeralfs

Typical pedon: Baileycreek very gravelly loam, located in map unit 111, forestland. (Colors are for dry soils unless otherwise noted).

A—0 to 3 inches; brown (7.5YR 4/2) very gravelly loam, dark brown (7.5YR 3/2) moist; weak very fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; 5 percent stones; 10 percent cobbles, 30 percent gravel; sodium fluoride pH (9.8); slightly acid (pH 6.1); clear wavy boundary.

BA—3 to 9 inches; reddish brown (5YR 5/4) very gravelly loam, dark reddish brown (5YR 3/4) moist; weak very fine and fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and common fine and medium roots; many very fine interstitial pores; 15 percent cobbles; 40 percent gravel; sodium fluoride (pH 9.6); slightly acid (pH 6.1); clear wavy boundary.

Bt1—9 to 14 inches; yellowish red (5YR 5/6) very gravelly loam, dark reddish brown (5YR 3/4) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, sticky and plastic; many very fine and common fine and medium roots,

many very fine and fine interstitial and tubular pores; common thin clay films on faces of peds and in pores; 20 percent 2 to 5 mm gravel; 30 percent 5 to 75 mm gravel; 5 percent cobbles; sodium fluoride pH (9.2); slightly acid (pH 6.2); clear wavy boundary.

Bt2—14 to 30 inches; yellowish red (5YR 5/6) very gravelly loam, dark reddish brown (5YR 3/4) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, sticky and plastic; common very fine, fine and medium roots; many very fine and fine interstitial and tubular pores; common thin clay films on faces of peds and in pores; 20 percent 2 to 5 mm gravel; 30 percent 5 to 75 mm gravel; 5 percent cobbles; sodium fluoride pH (9.0); slightly acid (pH 6.2); clear wavy boundary.

Cr—30 to 60 inches; soft weathered basalt; digs with spade; retains all of original rock structure and minerals.

Type location: About 2 miles east of Chester along Highway 139 to intersection of trail; north along northeast fork through road cut about 0.3 miles to intersection of another east-west trail 50 feet north of intersection; about 2,000 feet east and 1,600 feet south of the northwest corner of Section 3, T.28 N., R.7 E.

Range in Characteristics:

Soil moisture: Usually dry from August 1 to November 1, moist in some or all parts the rest of the time. Xeric moisture regime.

Soil temperature: 44 to 46 degrees F.

Solum thickness and depth to bedrock: 20 to 40 inches.

Rock fragments on the surface: 0 to 20 percent boulders, 5 to 10 percent stones, 10 to 20 percent cobbles and 20 to 50 percent gravel.

A horizon:

Hue—10YR, 7.5YR, 5YR.

Value—4 dry, 2 to 3 moist.

Chroma—1 to 2, dry or moist.

Texture—Very gravelly, very bouldery or very stony loam.

Clay content—10 to 15 percent.

Rock fragments—40 to 50 percent.

Sodium fluoride pH—9.8 to 10.0.

Bulk density—0.7 to 0.85 g/cc.

Base saturation by sum of cations—35 to 50 percent.

BA horizon:

Hue—7.5YR, 5 YR.

Value—4 to 5 dry, 3 moist.

Chroma—2 through 4, dry or moist.

Rock fragments—50 to 60 percent.

Sodium fluoride pH—9.6 to 9.8.

Bulk density—0.9 to 0.98 g/cc.

Base saturation by sum of cations—25 to 45 percent.

Bt horizon:

Hue—7.5YR, 5YR.

Value—5 dry, 3 to 4 moist.

Chroma—4 to 6, dry or moist.

Texture—Very gravelly loam, extremely gravelly loam, or very gravelly clay loam.

Clay content—20 to 35 percent clay.

Rock fragments—50 to 70 percent.

Sodium fluoride pH—8.5 to 9.2.

Bulk density—1.0 to 1.1 g/cc.

Base saturation by sum of cations—25 to 35 percent in the Bt1 and ranges from 35 to 50 percent in the Bt2.

Barnard series

The Barnard series consists of moderately deep to a duripan well drained soils that formed in mixed alluvium on fan remnants. Slopes range from 2 to 15 percent.

Taxonomic class: Fine, smectitic, mesic Argiduridic Durixerolls

Typical pedon: Barnard stony sandy loam, located in map unit 114, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 3 inches; grayish brown (10YR 5/2) stony sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; 10 percent stones, 5 percent cobbles, 5 percent 5 to 75 mm gravel and 5 percent 2 to 5 mm gravel; slightly acid (pH 6.1); clear wavy boundary.

A2—3 to 7 inches; brown (10YR 5/3) sandy loam, very dark grayish brown (10YR 3/2) moist; moderate medium and coarse angular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; few very fine and fine roots; many very fine interstitial pores; 5 percent 5 to 75 mm gravel and 5 percent 2 to 5 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

BAt—7 to 11 inches; brown (10YR 5/3) sandy clay loam, dark brown (10YR 3/3) moist; moderate medium and coarse angular blocky structure; hard, very friable, slightly sticky and slightly plastic; few very fine and

fine roots; many very fine interstitial pores; many thin clay films in pores and bridging mineral grains; 5 percent cobbles and 8 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

Bt1—11 to 14 inches; light yellowish brown (10YR 6/4) clay, dark yellowish brown (10YR 3/4) moist; strong medium prismatic structure; very hard, friable, sticky and plastic; few very fine, fine and medium roots; common very fine tubular pores; continuous thick clay films on faces of pedis; 5 percent cobbles and 10 percent gravel; neutral (pH 7.0); abrupt wavy boundary.

Bt2—14 to 20 inches; light yellowish brown (10YR 6/4) clay, dark yellowish brown (10YR 4/4) moist; strong medium angular blocky structure; very hard, friable, very sticky and very plastic; few very fine and fine roots; few very fine tubular pores; continuous thick brown (10YR 5/3) clay films on faces of pedis, dark brown (10YR 3/3) moist; 5 percent cobbles and 8 percent gravel; neutral (pH 7.0); abrupt wavy boundary.

Bkqm—20 to 26 inches; light yellowish brown (10YR 6/4) indurated duripan, dark yellowish brown (10YR 4/4) moist; massive; no roots; few very fine tubular and interstitial pores; continuous thick clay films in pores, on rock fragments and on laminar cap at the upper boundary; 10 percent cobbles and 10 percent gravel; laminar cap of silica at upper boundary and lustrous silica films on vertical sides and undersides of rock fragments, and bridging mineral grains; clear wavy boundary.

2Cq—26 to 60 inches; brownish yellow (10YR 6/6) very gravelly loamy coarse sand, light yellowish brown (10YR 6/4) moist; massive; hard, very friable, nonsticky and nonplastic; no roots; common very fine interstitial pores; 10 percent cobbles, 30 percent 5 to 75 mm gravel and 10 percent 2 to 5 mm gravel; many lustrous silica films bridging mineral grains.

Type location: About 2 miles northeast of Constantia; pit is on the uphill side of jeep trail about 0.4 mile east of its intersection with the dirt road on the east side of Long Valley; 800 feet west and 1,000 feet south of the northeast corner of Sec. 36, T.25 N., R.17 E.

Range in Characteristics:

Soil moisture: Usually dry, moist for 60 consecutive days during the winter months. Aridic moisture regime bordering on Xeric.

Soil temperature: 47 to 53 degrees F.

Depth to the duripan and thickness of the solum: 20 to 40 inches.

Reaction: Slightly acid to slightly alkaline.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, moist and dry.

Texture—Silt loam, loam, clay loam, gravelly loam, cobbly loam, and stony sandy loam.

Bt horizon:

Hue—7.5YR or 10YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 4, dry and moist.

Texture—Silty clay loam, silty clay, clay, or cobbly clay loam.

Clay content—35 to 50.

Structure—Weak, moderate, or strong prismatic and moderate or strong blocky. It is calcareous in the lower part in some pedons.

Rock fragments—0 to 15 percent cobbles and 0 to 10 percent gravel.

Bkqm horizon:

Value—6 through 8 dry, 4 through 6 moist.

Chroma—2 to 3, dry or moist.

Cementation—Indurated throughout or indurated in the upper few inches and weakly or strongly cemented below. It is silica cemented or lime-silica cemented. The thickness of the cemented horizon ranges from 3 to 24 inches, but generally it is 6 to 10 inches thick.

Structure—Massive or platy.

2C horizon:

Texture—Very gravelly loam, very gravelly sandy loam, very gravelly loamy sand, very gravelly loamy coarse sand, or cobbly loam.

Rock fragments—0 to 20 percent cobbles and 10 to 40 percent gravel.

Reaction—Slightly to strongly alkaline.

Beckwourth series

The Beckwourth series consists of very deep, somewhat poorly drained soils on stream terraces. These soils formed in mixed alluvium. Slopes range from 0 to 2 percent.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Oxyaquic Argixerolls

Typical pedon: Beckwourth loamy sand located in map unit 115, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 7 inches; brown (10YR 5/3) loamy sand, very dark grayish brown (10YR 3/2) moist; massive; soft, very friable, nonsticky and nonplastic; common fine and medium roots; many very fine interstitial pores; slightly alkaline (pH 7.8); clear wavy boundary.

A2—7 to 12 inches; brown (10YR 5/3) loamy sand, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; soft, friable, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; slightly alkaline (pH 7.8); clear smooth boundary.

Btk1—12 to 18 inches; yellowish brown (10YR 5/4) sandy loam, dark brown (10YR 3/3) moist; moderate medium angular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; many very fine tubular pores; many moderately thick clay films on faces of peds; slightly effervescent with disseminated lime; moderately alkaline (pH 8.0); clear smooth boundary.

Btk2—18 to 23 inches; pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; few fine distinct dark yellowish brown (10YR 4/6) moist mottles; weak coarse angular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; many very fine interstitial pores; few thin clay films on faces of peds; slightly effervescent with disseminated lime; moderately alkaline (pH 8.0); clear smooth boundary.

Bk1—23 to 31 inches; light yellowish brown (2.5YR 6/4) stratified loamy sand, olive brown (2.5YR 4/3) moist; many fine distinct dark yellowish brown (10YR 4/6) moist mottles; massive; soft, very friable, nonsticky and nonplastic; common very fine roots; many very fine interstitial pores; slightly effervescent with disseminated lime; moderately alkaline (pH 8.0); clear smooth boundary.

Bk2—31 to 60 inches; light yellowish brown (2.5Y 6/4) stratified loamy coarse sand, olive brown (2.5Y 4/3) moist; common fine distinct brown and dark yellowish brown (10YR 4/3 and 4/6) moist mottles; massive; soft, very friable, nonsticky and nonplastic; few fine roots; many very fine interstitial pores; slightly effervescent with disseminated lime; moderately alkaline (pH 8.0).

Type location: About 12 miles east of Termo, CA; 1,200 feet south and 50 feet west of the northeast corner of Section 26, T.35 N., R.15 E.

Range in Characteristics:

Soil moisture: Usually dry in all parts from July 15 through November 15 (123 days). It is moist

throughout from December 1 through April 15. Aridic moisture regime bordering on Xeric.

Soil temperature: 48 to 52 degrees F.

A horizon:

Value—3 through 5 dry, 2 to 3 moist.

Chroma—1 through 3, dry or moist.

Texture—Loamy coarse sand, loamy sand or coarse sandy loam.

Reaction—Neutral through moderately acid.

Btk horizon:

Value—5 through 7 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

Reaction—Slightly or moderately alkaline.

Effervescence—Strongly effervescent.

Bk horizon:

Hue—10YR, 2.5Y.

Chroma—3 to 4, dry or moist.

Texture—Loamy sand, loamy coarse sand, coarse sand or sand.

Reaction—Slightly or moderately alkaline.

Bieber series

The Bieber series consists of shallow to hardpan, well drained soils on fan remnants. Slope is 2 to 9 percent. These soils formed in alluvium from mixed volcanic rock.

Taxonomic class: Clayey, smectitic, mesic, shallow Argiduridic Durixerolls

Typical pedon: Bieber cobbly loam, located in map unit 116, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 6 inches; grayish brown (10YR 5/2) cobbly loam, very dark grayish brown (10YR 3/2) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; common very fine roots; common very fine interstitial and tubular pores; 20 percent cobbles and 10 percent gravel; slightly acid (pH 6.5); clear smooth boundary.

Bt1—6 to 11 inches; dark grayish brown (10YR 4/2) clay loam, dark brown (10YR 3/3) moist; moderate medium prismatic structure; hard, very friable, sticky, slightly plastic; few very fine roots; common very fine interstitial and few very fine tubular pores; common thin clay films as bridges between mineral grains; 13

percent gravel; slightly acid (pH 6.5); abrupt smooth boundary.

Bt2—11 to 18 inches; brown (7.5YR 5/4) clay, dark brown (7.5YR 3/4) moist; strong coarse angular blocky structure; very hard, very friable, very sticky, plastic; few very fine roots; few very fine interstitial and few very fine tubular pores; continuous thick clay films on faces of peds and many moderately thick clay films in pores; 13 percent gravel concentrated at the top of the horizon; neutral (pH 7.0); abrupt smooth boundary.

2Bqm1—18 to 22 inches; light brown (7.5YR 6/4) moderately thick platy indurated duripan with 1 to 2 mm thick continuous caps on the surface and cemented bands 1 to 2 cm apart below; 40 percent rounded gravel; strongly effervescent lime on bottom of gravel; silica pendants on underside of coarse fragments; clear smooth boundary.

2Bqm2—22 to 31 inches; light brown (7.5YR 6/4) massive indurated duripan; 60 percent rounded gravel and 10 percent cobbles; strongly effervescent lime on bottom of gravel; silica pendants on underside of coarse fragments; clear smooth boundary.

2Bqm3—31 to 52 inches; light brown (7.5YR 6/4) massive indurated duripan; 60 percent rounded gravel and 10 percent cobbles; strongly effervescent lime in fine, generally rounded bodies, as filaments and as seams on bottom of gravel; fewer gravel are coated than in horizon above; silica pendants on bottom of rock fragments.

Type location: About 600 feet west and 800 feet north of the southeast corner of Section 29, T.39 N., R.13 E.

Range in Characteristics:

Soil moisture: Usually dry, moist in some or all parts from April 1 to June 15. Aridic moisture regime bordering on xeric.

Soil temperature: 50 to 55 degrees F.

Depth to duripan: 8 to 20 inches.

Control section:

Clay content—35 to 45 percent.

Cementation—Some pedons have stratified cemented layers below the duripan.

A horizon:

Hue—10YR, 7.5YR.

Value—3 to 5 dry, 3 moist.

Chroma—2 to 3, dry and moist.

Texture—Sandy loam to light clay loam.

Structure—Weak to moderate platy, granular, or subangular blocky structure, and is slightly hard or hard, and friable.

Reaction—Slightly acid or neutral.

Upper Bt horizon:

Hue—10YR, 7.5YR.

Value—3 to 5 dry, 3 moist.

Chroma—2 to 3, dry and moist.

Texture—Clay loam or heavy clay loam.

Structure—Moderate or weak subangular blocky, angular blocky or platy structure.

Reaction—Slightly or moderately acid.

Lower Bt horizon:

Hue—10YR, 7.5YR.

Value—4 through 6 dry, 3 through 6 moist.

Chroma—2 through 4, dry and moist.

Structure—Strong or moderate prismatic or strong angular blocky structure and is very sticky or sticky.

Reaction—Slightly acid to moderately alkaline.

Biscaro series

The Biscaro series consists of moderately deep, well drained soils on lake terraces. These soils formed in material weathered from interbedded tuffaceous siltstone and sandstone. Slopes range from 0 to 2 percent.

Taxonomic class: Fine, smectitic, mesic Durinodic Xeric Paleargids

Typical pedon: Biscaro silt loam, located in map unit 379, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 3 inches; light yellowish brown (2.5Y 6/3) silt loam, dark brown (10YR 4/3) moist; moderate thick and very thick platy structure; hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine and common medium interstitial and vesicular pores; slightly alkaline (pH 7.5); abrupt wavy boundary.

Bt1—3 to 9 inches; pale brown (10YR 6/3) silty clay loam, dark brown (10YR 4/3) moist; moderate medium prismatic structure parting to strong medium and coarse angular blocky; very hard, friable, sticky and plastic; few very fine roots; common very fine tubular pores; many thin and moderately thick clay films on faces of peds and in pores; sodium adsorption ratio is 7; slightly alkaline (pH 7.5); clear wavy boundary.

Bt2—9 to 14 inches; light yellowish brown (10YR 6/4) silty clay, dark brown (10YR 4/3) moist; moderate fine and medium angular blocky structure; hard; friable, sticky and plastic; common very fine and few fine and medium roots; few very fine tubular pores; many thin and moderately thick clay films on faces of peds and in pores; sodium adsorption ratio is 11; slightly alkaline (pH 7.8); clear wavy boundary.

Bq—14 to 24 inches; pale yellow (2.5Y 8/4) loam, yellowish brown (10YR 5/4) moist; moderate fine, medium and coarse angular blocky structure; hard, firm, brittle wet; few very fine, fine and medium roots; few very fine tubular pores; continuous brittle matrix; many thin and moderately thick silica coats appear as glassy luster; slightly alkaline (pH 7.8); clear wavy boundary.

Cq—24 to 38 inches; white (2.5Y 8/2) extremely paragravelly loam, light yellowish brown (2.5Y 6/4) moist; massive; hard, friable, slightly sticky and slightly plastic; pockets of many very fine and fine roots; common very fine tubular pores; 5 percent 10 to 20 mm durinodes near the upper boundary; 75 percent 5 to 20 mm paragravel consisting of highly weathered tuff; slightly alkaline (pH 7.8); clear wavy boundary.

Cr—38 to 60 inches; white (10YR 8/1) tuffaceous siltstone, light yellowish brown (2.5Y 6/4) moist, strong thick and very thick platy rock structure; few pockets of common very fine roots; few thin (0.5 to 1 mm) discontinuous horizontal silica laminae; noneffervescent matrix; strongly effervescent on faces of rock fragments.

Type location: About 20 miles northeast of Susanville, in Secret Valley; about 7 miles south along Karlo Road from its intersection with US Hwy 395, 2 1/2 miles south of Karlo, 150 feet east of road; about 2,200 feet west and 1,900 feet south of the northeast corner of Section 25, T.31 N., R.14 E.

Range in Characteristics:

Soil moisture: Usually dry from June 1 to November 15, moist in all parts from about December 1 to May 1.

Aridic moisture regime bordering on xeric.

Soil temperature: 48 to 52 degrees F.

Solum thickness and depth to brittle Bq horizon: 14 to 24 inches.

Depth to paralithic contact: 24 to 40 inches.

A horizon:

Hue—10YR, 2.5Y.

Value—6 to 7 dry, 3 to 4 moist.

Chroma—2 to 3, dry or moist.

Reaction—Neutral through moderately alkaline.

Texture—Silt loam, sandy loam, or clay loam.

Overwash phases are recognized that are sandy loam or clay loam.

Bt horizon:

Hue—10YR, 2.5Y.

Value—5 through 7 dry, 3 to 4 moist.

Chroma—2 through 4, dry or moist.

Reaction—Neutral through moderately alkaline.

SAR—8 to 12.

Texture—Silty clay loam or silty clay with 35 to 50 percent clay and 5 to 20 percent total sand.

Bq horizon:

Hue—10YR, 2.5Y.

Value—6 through 8 dry, 4 to 5 moist.

Chroma—1 through 4, dry or moist.

Texture—Loam or silt loam.

Reaction—Slightly alkaline or moderately alkaline.

Cq horizon:

Hue—10YR, 2.5Y.

Value—6 through 8 dry, 4 to 5 moist.

Chroma—1 through 4, dry or moist.

Texture—Loam or silt loam modified by 60 to 85 percent paragravel of highly weathered tuff. The tuff is composed of dominantly silt-very fine sand- or fine sand-size particles.

Blickenstaff series

The Blickenstaff series consists of very deep, moderately well drained soils on stream terraces. These soils formed in alluvium derived from granite. Slopes range from 0 to 2 percent.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Aridic Calcixerolls

Typical pedon: Blickenstaff sandy loam, located in map unit 120, cropland. (Colors are for dry soils unless otherwise noted).

Ap—0 to 9 inches; grayish brown (10YR 5/2) sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and nonplastic; common very fine and few fine roots; many very fine interstitial pores; 10 percent 2 to 5 mm gravel; violently effervescent with disseminated lime; strongly alkaline (pH 8.5); clear wavy boundary.

A—9 to 15 inches; grayish brown (10YR 5/2) sandy loam, dark brown (10YR 3/3) moist; weak medium angular blocky structure; slightly hard, very friable,

slightly sticky and nonplastic; few very fine roots; many very fine interstitial pores; 10 percent 2 to 5 mm gravel; violently effervescent with disseminated lime; strongly alkaline (pH 8.6); clear wavy boundary.

Bw—15 to 34 inches; pale brown (10YR 6/3) gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; weak medium angular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; few very fine roots; many very fine interstitial pores; 25 percent 2 to 5 mm gravel; strongly effervescent with disseminated lime; strongly alkaline (pH 8.6); clear wavy boundary.

Bk1—34 to 53 inches; light gray (10YR 7/2) gravelly sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; no roots; many very fine interstitial pores; 25 percent 2 to 5 mm gravel; strongly effervescent, lime segregated in few fine soft masses; strongly alkaline (pH 8.8); clear wavy boundary.

Bk2—53 to 60 inches; white (10YR 8/1) gravelly sandy loam, pale brown (10YR 6/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; no roots; many very fine interstitial pores; 25 percent 2 to 5 mm gravel; strongly effervescent, lime segregated in common medium filaments; strongly alkaline (pH 8.5).

Type location: About 1.3 miles northeast of Buntingville; 1.0 mile east of County Road A3 on Hemphill Road and 300 feet northwest of right angle bend in road; about 1,200 feet north and 2,400 feet east of the southwest corner of Section 12, T.28 N., R.13 E.

Range in Characteristics:

Soil moisture: The moisture control section is dry from June 15 to November 15 (153 days) and is moist in all parts from December 1 to April 15 (136 days). Aridic moisture regime that borders on xeric.

Soil temperature: 51 to 53 degrees F.

Mollic epipedon thickness: 10 to 16 inches.

Depth to base of cambic horizon: 30 to 40 inches.

Depth to calcic horizon: 30 to 40 inches.

Control section:

Clay content—10 to 18 percent.

Rock fragments—15 to 25 percent, mainly fine pebbles.

Ap and A horizons:

Hue—10YR or 2.5Y.

Chroma—1 or 2 dry, 1 through 3 moist.

Organic matter content—1 or 2 percent.

Reaction—Moderately alkaline to very strongly alkaline.

Salinity (EC)—0 to 4 mmhos/cm.

Sodicity (SAR)—0 to 4.

Effervescence—Strongly effervescent or violently effervescent.

Calcium carbonate equivalent—1 to 3 percent.

Bw horizon:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

Rock fragments—15 to 25 percent.

Reaction—Strongly alkaline or very strongly alkaline.

Salinity (EC)—0 to 4 mmhos/cm.

Sodicity (SAR)—4 to 13.

Effervescence—Strongly effervescent or violently effervescent.

Calcium carbonate equivalent—1 to 5 percent.

Bk horizons:

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 4 through 6 moist.

Chroma—1 through 4 dry, 2 through 4 moist.

Reaction—Strongly alkaline or very strongly alkaline.

Salinity (EC)—0 to 4 mmhos/cm.

Sodicity (SAR)—4 to 13.

Effervescence—Strongly effervescent or violently effervescent.

Identifiable secondary carbonates—Segregated as few to common masses and filaments.

Calcium carbonate equivalent—5 to 15 percent.

Bobert series

The Bobert series consists of very deep, moderately well drained soils on lake terraces and stream terraces. These soils formed in alluvium from mixed sources. Slopes range from 0 to 2 percent.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Durinodic Xeric Natrargids

Typical pedon: Bobert sandy loam, located in map unit 122, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 6 inches; light brownish gray (10YR 6/2) sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium and thick platy structure; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine interstitial pores; moderately alkaline (pH 7.9); clear wavy boundary (6 to 10 inches thick).

Btnk—6 to 14 inches; pale brown (10YR 6/3) sandy clay loam, brown (10YR 4/3) moist; moderate fine and

medium prismatic structure parting to strong fine and medium angular blocky; hard, very friable, moderately sticky and moderately plastic; common very fine, fine and few medium roots; common very fine tubular pores; many faint and distinct clay films on faces of peds, lining pores, and bridging mineral grains; strongly effervescent, secondary carbonates segregated in common fine and medium soft masses; moderately alkaline (pH 8.2); clear wavy boundary (8 to 24 inches thick).

Bqk—14 to 26 inches; very pale brown (10YR 7/3) loam, dark yellowish brown (10YR 4/4) moist; moderate thin and medium platy structure; hard, brittle and firm, moderately sticky and moderately plastic; few very fine and fine roots; few very fine tubular pores; discontinuous weakly silica-cemented matrix, 70 percent of fragments slake in water; common thin silica coats with a glassy luster; strongly effervescent with disseminated carbonates; strongly alkaline (pH 8.6); clear wavy boundary (6 to 12 inches thick).

Bk1—26 to 52 inches; very pale brown (10YR 7/3) sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; violently effervescent with disseminated carbonates; strongly alkaline (pH 8.6).

Bk2—52 to 60 inches; light gray (2.5Y 7/2) sandy loam, dark yellowish brown (10YR 4/4) moist; slightly hard, very friable slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; violently effervescent with disseminated carbonates; strongly alkaline (pH 8.6).

Type location: About 4 miles east of Litchfield along Hwy. 395 to Wendel road; 0.5 mile along Wendel road to trail and South along trail 0.2 mile; about 100 feet west and 2,200 feet north of the southeast corner of Sec. 17, T.29 N., R.15 E.

Range in Characteristics:

Soil moisture: Usually dry in all parts from June 1 to November 15, moist in all parts from December 1 to April 15. Aridic moisture regime bordering on xeric.

Soil temperature: 53 to 56 degrees F.

Depth to weak silica cementation: 14 to 28 inches.

Organic carbon content of the surface 16 inches: 0.6 to 1.0 percent.

A horizon:

Value—6 to 7 dry, 3 to 4 moist.

Chroma—2 to 3, dry or moist.

Reaction—Slightly or moderately alkaline.

Effervescence—None to strong.

Btn horizon:

Hue—10YR, 2.5Y.

Value—5 through 7 dry, 3 to 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Loam, sandy clay loam or clay loam with a weighted average of 25 to 30 percent clay and 35 to 55 percent sand.

Reaction—Moderately or strongly alkaline.

Effervescence—None through strong.

Segregated carbonates—Few, common or many fine or medium soft masses.

SAR—50 to 200.

Electrical conductivity—4 to 16 mmhos.

Bqk horizon:

Hue—10YR, 2.5Y, 5Y.

Value—6 through 8 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Sandy loam or loam.

Reaction—Strongly or very strongly alkaline.

Effervescence—Strong or violent.

Segregated carbonates—Few or common soft masses.

SAR—50 to 100.

Electrical conductivity—8 to 16 mmhos.

Bk horizon:

Hue—10YR, 2.5Y, 5Y.

Value—6 to 7 dry, 3 through 6.

Chroma—2 through 4, dry or moist.

Texture—Loam or sandy loam.

Reaction—Moderately or strongly alkaline.

Effervescence—Slight, strong, or violent.

Remarks

The soils mapped as Bobert in map unit 123 are outside the range for the series. They are not as wet within a depth of 60 inches as defined for the series. This difference, however, does not significantly affect use and management.

Bonta series

The Bonta series consists of moderately deep, well drained soils on back slopes of mountains and hills. These soils formed in residuum and colluvium weathered from granite. Slopes range from 9 to 50 percent.

Taxonomic class: Coarse-loamy, mixed, superactive, frigid Typic Haploxeralfs

Typical pedon: Bonta gravelly sandy loam, map unit 126, forestland. (Colors are for dry soils unless otherwise noted).

A1—0 to 8 inches; very pale brown (10YR 7/3) gravelly sandy loam, brown (10YR 4/3) moist; weak fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and few fine roots; many very fine interstitial pores; 15 percent gravel 2 to 5 mm across; slightly acid (pH 6.5); clear wavy boundary.

A2—8 to 12 inches; very pale brown (10YR 7/4) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak medium and coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine, few fine and few medium roots; many very fine interstitial pores; 10 percent gravel 2 to 5 mm across and 5 percent gravel 5 to 75 mm across; slightly acid (pH 6.5); clear wavy boundary.

BA—12 to 21 inches; pink (7.5YR 7/4) gravelly sandy loam, brown (7.5YR 5/4) moist; weak medium and coarse subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine, few fine and common medium roots; many very fine interstitial pores; 10 percent gravel 2 to 5 mm across and 5 percent gravel 5 to 75 mm across; slightly acid (pH 6.5); clear wavy boundary.

Bt1—21 to 27 inches; yellow (10YR 7/6) gravelly sandy loam, strong brown (7.5YR 5/6) moist; weak medium and coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; few fine and few medium roots; common very fine interstitial pores; common clay films on faces of peds and in pores; 20 percent paragravel; slightly acid (pH 6.5); clear wavy boundary.

Bt2—27 to 34 inches; reddish yellow (7.5YR 7/6) gravelly sandy loam, strong brown (7.5YR 5/6) moist; reddish yellow (7.5YR 6/6) clay films, strong brown (7.5YR 4/6) moist; moderate coarse angular blocky structure; hard, very friable, slightly sticky and slightly plastic; few very fine, few fine and common medium roots; common very fine interstitial and few very fine tubular pores; many moderately thick clay films on faces of peds and in pores; 15 percent paragravel; slightly acid (pH 6.5); clear wavy boundary.

Crt—34 to 40 inches; decomposed granite covered by many clay films which weathered in place.

Type location: About 900 feet east and 800 feet north of the southwest corner of Section 30, T.29 N., R.12 E.

Range in Characteristics:

Soil moisture: Usually dry from July 15 to November 1, and is moist in some or all parts the rest of the year.

Xeric moisture regime.

Soil temperature: 43 to 47 degrees F.

Depth to a paralithic contact: 20 to 40 inches.

Rock fragments: 5 to 30 percent.

A horizon:

Value—4 through 7 dry, 3 to 4 moist.

Chroma—2 through 4, dry or moist. Colors with moist value of 3 are confined to the upper 5 inches or less of this horizon and are lacking in some pedons.

Texture—Coarse sandy loam, loamy coarse sand or gravelly sandy loam modified by 0 to 30 percent gravel.

Reaction—Slightly acid or neutral.

Bt horizon:

Hue—10YR, 7.5YR.

Value—5 through 7 dry, 5 moist.

Chroma—3 through 6, dry or moist.

Texture—Sandy loam or coarse sandy loam.

Rock fragments—0 to 30 percent.

Structure—Massive or has weak to moderate subangular blocky structure.

Reaction—Slightly through strongly acid.

Remarks

The Bonta soils in map units 124, 125, 269 have a mean annual soil temperature of 47 to 49 degrees F. instead of 43 to 47 degrees F. and occur at elevations of 4,200 to 4,500 feet instead of 4,900 to 6,000 feet. These soils are taxajuncts to the series and classify as Coarse-loamy, mixed, mesic Typic Haploxeralfs. They have a slightly warmer soil temperature than described for the series. These differences, however, do not significantly affect use and management.

Boulder Lake series

The Boulder Lake series consists of very deep, somewhat poorly drained soils on basin floors. These soils formed lacustrine sediments derived from volcanic rocks. Slopes range from 0 to 1 percent.

Taxonomic class: Fine, smectitic, frigid Xeric Epiaquerts

Typical pedon: Boulder Lake silty clay, located in map unit 128, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 2 inches; grayish brown (10YR 5/2) silty clay, very dark grayish brown (10YR 3/2) moist; weak medium and coarse prismatic structure parting to moderate very fine and fine angular blocky; upper 1/2 inch is moderate very fine granular; soft and slightly hard; very friable, very sticky and very plastic; common very fine and few fine and medium roots; many very fine interstitial pores; vertical cracks 5 to 20 mm wide; neutral (pH 7.0); clear wavy boundary.

Bwss1—2 to 12 inches; grayish brown (10YR 5/2) silty clay, dark grayish brown (10YR 4/2) moist; moderate medium and coarse prismatic structure parting to moderate fine, medium and coarse angular blocky; hard, very friable, very sticky and very plastic; common very fine and few fine and medium roots; many very fine and fine interstitial, few very fine tubular pores; many pressure faces; few 1/2 to 1 mm slickensides; few wedge-shaped aggregates tilted about 30 degrees from their horizontal; vertical cracks 5 to 20 mm wide; neutral (pH 7.3); clear wavy boundary.

Bwss2—12 to 32 inches; grayish brown (2.5Y 5/2) clay, dark grayish brown (10YR 4/2) moist; few fine distinct yellowish brown (10YR 5/4) mottles, dark brown (10YR 3/3) moist; weak medium and coarse prismatic structure parting to moderate medium and coarse angular blocky; hard, friable, very sticky and very plastic; few very fine and fine roots; many very fine and fine interstitial and few very fine tubular pores; many pressure faces; common 1/2 to 1 mm slickensides; common wedge-shaped aggregates tilted about 30 degrees from their horizontal; prisms exhibit weak cracks about 30 degrees from horizontal; few vertical cracks 5 to 15 mm wide; slightly alkaline (pH 7.5); clear wavy boundary.

Bwss3—32 to 43 inches; light brownish gray (2.5Y 6/2) clay, dark grayish brown (2.5Y 4/2) moist; weak coarse prismatic structure parting to moderate coarse angular blocky; hard, friable, very sticky and very plastic; few very fine and fine roots; many very fine interstitial and few very fine tubular pores; many pressure faces; few 1/2 to 1 mm slickensides; few wedge-shaped aggregates tilted about 30 degrees from their horizontal; prisms exhibit weak cracks about 30 degrees from horizontal; common fine distinct brown (10YR 4/3) redoximorphic concentrations, dark brown (10YR 3/3) moist; moderately alkaline (pH 8.0); clear wavy boundary.

Bwss4—43 to 56 inches; light gray and light brownish gray (5Y 7/2, 2.5Y 6/2) silty clay loam, olive gray and

dark grayish brown (5Y 5/2, 2.5Y 4/2) moist; weak coarse angular blocky structure; hard, very friable, very sticky and very plastic; few very fine roots; many very fine interstitial and few very fine tubular pores; common pressure faces; few slickensides; moderately alkaline (pH 8.0); common fine distinct brownish yellow (10YR 6/6) redoximorphic concentrations, yellowish brown (10YR 5/6) moist; clear wavy boundary.

Bk—56 to 72 inches; light gray (5Y 7/2) silty clay loam, olive gray (5Y 5/2) moist; weak coarse angular blocky structure; hard, very friable, very sticky and very plastic; many very fine interstitial and few very fine tubular pores; common pressure faces; strongly effervescent with disseminated lime and lime segregated in few fine filaments and threads; moderately alkaline (pH 8.0).

Type location: Painter's Flat about 1,400 feet east and 1,800 feet north of the southwest corner of Sec. 2, T.33 N., R.17 E.

Range in Characteristics:

Soil moisture: Ponded for less than 45 consecutive days in most years, mainly in the spring; brief ponding occurs after intensive rainfall. Saturated to a depth of 30 to 60 inches in late winter and spring.

Soil temperature: 43 to 47 degrees F.

Summer soil temperature: 62 to 64 degrees F.

Effervescence: Noncalcareous or slightly effervescent but ranges to strongly effervescent in some pedons where few to common, very fine to medium lime segregations occur below depths of 20 inches.

Other features: Cracks at the surface are up to 3 inches wide and are 3 to 6 inches apart. These decrease in width as depth increases. Cracks remain open for fewer than 180 consecutive days.

A horizon:

Hue—10YR or 2.5Y.

Value—5 or 6 dry, 3 through 5 moist.

Chroma—2 or 3 moist, 1 through 3 dry.

Reaction—Slightly acid to slightly alkaline.

Bw and Bwss horizon:

Hue—10YR or 2.5Y.

Chroma—2 or 3. (Some pedons have dry chromas of 1 in the upper Bss) Chromas are dominantly 2 or less above 20 inches.

Texture—Clay or silty clay, some pedons have clay loam in the immediate surface layer.

Structure—Moderate or strong, medium to very coarse prismatic, to medium to very coarse angular

blocky in the upper part and weak to strong, medium to very coarse prismatic and moderate or strong, medium to very coarse angular in the lower subhorizons.

Consistence—Very hard or extremely hard, dry; firm or very firm, moist; may be slightly hard and friable in upper part.

Mottles—Few or common, very fine to medium, distinct or prominent, redoximorphic concentrations with reddish, yellowish and brownish colors Hue 10YR through 5YR; chromas 2 through 6.

Reaction—Neutral to moderately alkaline.

Other features—Few to many slickensides and many pressure cutans. Soil is interpreted as having reduced matrix colors and redox concentrations due to saturation.

Bk horizon:

Hue—10YR or 2.5Y.

Value—5 or 6 moist and dry.

Chroma—2 through 6.

Texture—Silty clay loam or clay loam with 35 to 40 percent clay.

Reaction—Slightly alkaline or moderately alkaline

Brubeck series

The Brubeck series consists of moderately deep, well drained soils on plateaus. These soils formed in residuum and colluvium weathered from volcanic rocks. Slopes range from 0 to 30 percent.

Taxonomic class: Fine, smectitic, mesic Aridic Haploxererts

Typical pedon: Brubeck very cobbly clay located in map unit 243, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 2 inches; grayish brown (10YR 5/2) very cobbly clay, dark grayish brown (10YR 4/2) moist; strong very fine granular structure; hard, very friable, very sticky and very plastic; common very fine roots; many very fine interstitial pores; 5 percent pebbles, 35 percent cobbles, and 5 percent stones; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bw—2 to 6 inches; brown (10YR 5/3) clay, brown (10YR 4/3) moist; moderate fine and medium angular blocky structure; soft, very friable, very sticky and very plastic; many very fine and few fine roots; many very fine interstitial pores; vertical cracks 10 to 20 mm wide and about 4 to 6 inches apart; moderately alkaline (pH 8.1); clear wavy boundary.

Bss—6 to 23 inches; brown (10YR 5/3) clay, brown (10YR 4/3) moist; strong medium and coarse prismatic structure parting to strong medium and coarse angular blocky; very hard, friable, very sticky and very plastic; few very fine, fine, and common medium roots; common very fine tubular pores; vertical cracks 10 to 15 mm wide and about 4 to 6 inches apart; many intersecting slickensides bounding common wedge-shaped peds tilted 30 to 60 degrees from the horizontal; slightly effervescent; strongly alkaline (pH 8.5); clear wavy boundary.

Bssk—23 to 32 inches; brown (10YR 5/3) clay, brown (10YR 4/3) moist; moderate medium and coarse angular blocky structure; very hard, friable, very sticky and very plastic; few very fine and few fine roots; common very fine tubular pores; vertical cracks 10 to 15 mm wide about 4 to 6 inches apart; many intersecting slickensides bounding common wedge-shaped peds tilted 30 to 60 degrees from the horizontal; strongly effervescent; secondary carbonates segregated in few fine filaments; strongly alkaline (pH 8.7); abrupt wavy boundary.

R—32 inches; hard fractured basalt; fine-earth soil material fill fractures and some secondary carbonate coats line fractures which are 1/8 to 1/4 inch wide and 3 to 8 inches apart.

Type location: On a southwest-facing slope of 5 percent under Wyoming big sagebrush, cheatgrass, and shadscale at about 4,750 feet elevation; about 5 miles east of Mud Flat and 400 feet north of the Smoke Creek Ranch Road; about 2,580 feet south and 250 feet east of the northwest corner of section 2, T.30 N., R.16 E.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry from June through September; moisture penetration into this soil is controlled by cracks which remain open during June through mid-December for about 200 days.

Aridic moisture regime that borders on xeric.

Soil temperature: 47 to 53 degrees F.

Slickensides and other vertic features: Few to many intersecting slickensides and few to common wedge-shaped peds occur within depths of 6 inches from the soil surface and extend to the bedrock contact; Large cracks, 1 to 7.5 cm wide, open and close each year and extend from the soil surface to the bedrock contact forming large prisms.

Depth to bedrock: 20 to 40 inches to a lithic contact.

Control section:

Clay content—40 to 60 percent.

Other features—In some pedons the upper 2 or 3 inches of the bedrock is slightly weathered.

A horizon:

Hue—7.5YR or 10YR.
Value—4 through 6 dry, 3 or 4 moist.
Chroma—2 through 4, dry or moist.
Effervescence—Noneffervescent or slightly effervescent.

Bw horizon:

Hue—7.5YR or 10YR.
Value—4 through 6 dry, 3 or 4 moist.
Chroma—2 through 4, dry or moist.
Texture—Clay or silty clay.
Clay content—40 to 60 percent.
Reaction—Neutral to moderately alkaline.
Effervescence—Noneffervescent or slightly effervescent.

Bss horizon:

Hue—7.5YR or 10YR.
Value—4 through 6 dry, 3 or 4 moist.
Chroma—2 through 4, dry or moist.
Texture—Clay or silty clay.
Clay content—40 to 60 percent.
Reaction—Slightly alkaline to strongly alkaline.
Effervescence—Noneffervescent or slightly effervescent.

Bssk horizon:

Hue—7.5YR or 10YR.
Value—4 through 6 dry, 3 or 4 moist.
Chroma—2 through 4, dry or moist.
Texture—Clay or silty clay.
Clay content—40 to 60 percent.
Reaction—Moderately alkaline or strongly alkaline.
Effervescence—Slightly effervescent or strongly effervescent.
Identifiable secondary carbonates—Occurs as seams, soft masses, or filaments.
Calcium carbonate equivalent—1 to 8 percent.

Buckbay series

The Buckbay series consists of moderately deep, well drained soils on mountain backslopes. These soils formed in residuum and colluvium derived from andesite. Slopes range from 5 to 30 percent.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Vitrandic Argixerolls

Typical pedon: Buckbay gravelly loam located in map unit 259, forestland. (Colors are for dry soils unless otherwise noted).

A1—0 to 4 inches; brown (7.5YR 5/2) gravelly loam, dark brown (7.5YR 3/2) moist; weak fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and common fine roots; many very fine interstitial pores; 2 percent subrounded stones, 2 percent subrounded cobbles and 25 percent subrounded gravel; slightly acid (pH 6.5); clear wavy boundary.

A2—4 to 12 inches; brown (7.5YR 5/2) gravelly loam, dark brown (7.5YR 3/2) moist; moderate medium and coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine, common fine and few medium roots; many very fine interstitial pores; 25 percent subrounded gravel; neutral (pH 7.0); clear wavy boundary.

Bt1—12 to 22 inches; brown (7.5YR 5/4) gravelly loam, dark brown (7.5YR 4/4) moist; moderate medium and coarse angular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; common very fine interstitial and tubular pores; common thin clay films on faces of peds and in pores; 25 percent subrounded gravel; neutral (pH 7.0); clear wavy boundary.

Bt2—22 to 29 inches; brown (7.5YR 5/4) cobbly loam, dark brown (7.5YR 4/4) moist; moderate medium and coarse angular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and few fine roots; common very fine interstitial and common very fine tubular pores; common thin clay films on faces of peds and in pores; 2 percent subrounded stones, 15 percent subrounded cobbles and 10 percent subrounded gravel; neutral (pH 7.0); abrupt wavy boundary.

Cr—29 inches; soft, horizontally fractured andesite.

Type location: About 21 miles north of Susanville, 0.5 mile north of Buckbay on Eagle Lake, 0.2 mile west of dirt road; about 600 feet north and 1,600 feet east of the southwest corner of Section 21, T.33 N., R.11 E.

Range in Characteristics:

Soil moisture: The soil moisture control section is moist in all parts from about December 1 to May 1. It is dry in all parts from July 15 to November 1 (105 days).

Xeric moisture regime that borders on aridic.

Soil temperature: 47 to 52 degrees F.

Mollic epipedon thickness: 11 to 16 inches.

Depth to base of argillic horizon: 20 to 40 inches.

Depth to bedrock: 20 to 40 inches to a paralithic contact.

The paralithic materials below the contact are weathered andesite.

Control section:

Clay content—20 to 30 percent;

Rock fragments—15 to 30 percent, mainly pebbles.

Reaction—Slightly acid or neutral.

A horizons:

Hue—5YR or 7.5YR.

Chroma—2 or 3, dry or moist.

Clay content—15 to 20 percent.

Rock fragments—15 to 30 percent, mainly pebbles.

Organic matter content—1 or 2 percent.

Bt1 horizon:

Hue—5YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Texture—Gravelly loam or gravelly clay loam.

Clay content—20 to 30 percent.

Rock fragments—15 to 30 percent.

Bt2 horizon:

Hue—5YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Texture—Cobbly loam or cobbly clay loam.

Clay content—20 to 30 percent.

Rock fragments—15 to 30 percent.

Other features—Some pedons have thin C horizons just above the paralithic contacts.

Bucklake series

The Bucklake series consists of moderately deep, well drained soils on mountain back slopes and escarpments. These soils formed in residuum and colluvium derived from basalt or andesite. Slopes range from 2 to 50 percent.

Taxonomic class: Fine, smectitic, mesic Aridic Argixerolls

Typical pedon: Bucklake very stony loam located in map unit 402, rangeland. (Colors are for dry soils unless otherwise noted). Surface rock fragments: 20 percent stones, 15 percent cobbles and 10 percent gravel.

A1—0 to 3 inches; brown (7.5YR 5/2) very stony loam, dark brown (7.5YR 3/2) moist; weak medium and thick platy structure; hard, very friable, sticky and plastic; many very fine and fine, few coarse roots; many very fine tubular pores; 20 percent stones, 20 percent cobbles, 15 percent gravel; neutral (pH 7.0); clear wavy boundary.

A2—3 to 8 inches; brown (7.5YR 5/2) very stony loam, dark brown (7.5YR 3/2) moist; weak medium and coarse subangular blocky structures; slightly hard, very friable, sticky and plastic; many very fine and fine, few coarse roots; many very fine tubular pores; 10 percent stones, 15 percent cobbles and 20 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt1—8 to 12 inches; brown (7.5YR 5/2) gravelly clay loam, dark brown (7.5YR 3/2) moist; moderate medium and coarse subangular blocky structure; hard, very friable, sticky and plastic; common very fine and few fine roots; many very fine tubular pores; common thin and moderately thick clay films on faces of peds; 25 percent gravel; slightly alkaline (pH 7.5); clear wavy boundary.

Bt2—12 to 18 inches; brown (7.5YR 5/4) gravelly clay, dark brown (7.5YR 3/4) moist; moderate medium and coarse subangular blocky structure; very hard, friable, very sticky and very plastic; common very fine roots; many very fine tubular pores; many thin and moderately thick clay films on faces of peds; 25 percent gravel; slightly alkaline (pH 7.5); clear wavy boundary.

Bt3—18 to 24 inches; brown (7.5YR 5/4) gravelly clay, clay, dark reddish brown (5YR 3/4) moist; weak medium and coarse angular blocky structure; common very fine roots; many very fine tubular pores; many thin and moderately thick clay films on faces of peds; 25 percent gravel; slightly alkaline (pH 7.5); clear wavy boundary.

R—24 inches; hard basalt rock with some fractures.

Type location: About 2.2 miles north-northwest of Smoke Creek Reservoir, about 1,000 feet north, 700 feet east of the approximate center of Section 2, T.32 N., R.17 E.

Range in Characteristics:

Soil moisture: The moisture control section (10 to 24 inches) is dry from about July to November for between 100 and 130 days. It is moist throughout from December to June. Aridic moisture regime that borders on xeric.

Soil temperature: 47 to 52 degrees F.

Mollic epipedon thickness: 10 to 20 inches, includes the Bt1 horizon.

Depth to base of argillic horizon: 20 to 40 inches.

Depth to bedrock: 20 to 40 inches to a lithic contact.

Other features: Rock fragments on the soil surface range from 5 to 50 percent, mostly stones and cobbles.

A horizons:

Hue—10YR, 7.5YR.

Chroma—2 to 3, dry or moist.

Texture—Very cobbly loam, very stony loam, or very stony clay loam.

Clay content—20 to 30 percent.

Rock fragments—5 to 50 percent.

Reaction—Slightly acid to slightly alkaline.

Organic matter content—1 to 4 percent.

Bt1 horizon:

Hue—10YR, 7.5YR.

Value—4 to 5 dry, 3 moist.

Texture—Gravelly clay loam or clay loam.

Clay content—27 to 35 percent.

Sand content—20 to 35 percent.

Organic matter content—0.5 to 2 percent.

Bt2 and Bt3 horizons:

Hue—10YR, 7.5YR, 5YR.

Value—4 to 5 dry, 3 to 4 moist.

Texture—2 through 6, dry or moist.

Texture—Gravelly clay, gravelly clay loam, clay, or clay loam.

Clay content—35 to 50 percent.

Sand content—20 to 35 percent.

Rock fragments—5 to 30 percent, mainly pebbles.

Reaction—Neutral or slightly alkaline.

Bunanch series

The Bunanch series consists of very deep, well drained soils on low hills. These soils formed in alluvium weathered from conglomerate. Slopes range from 9 to 30 percent.

Taxonomic class: Clayey-skeletal, smectitic, mesic Mollic Palexeralfs

Typical pedon: Bunanch very gravelly loam, located in map unit 136, forestland. (Colors are for dry soils unless otherwise noted). The surface is partly covered by undecomposed litter of twigs and needles.

A1—0 to 7 inches; brown (10YR 4/3) very gravelly loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; slightly hard,

very friable, nonsticky and nonplastic; common very fine and few fine roots; common very fine interstitial pores; 20 percent 2 to 5 mm gravel and 20 percent 5 to 75 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

A2—7 to 11 inches; yellowish brown (10YR 5/4) very gravelly loam, dark yellowish brown (10YR 3/4) moist; moderate coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine, few fine and few medium roots; common very fine interstitial pores; 20 percent 2 to 5 mm gravel and 20 percent 5 to 75 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

Bt1—11 to 16 inches; brown (7.5YR 5/4) very gravelly clay loam, dark brown (7.5YR 3/4) moist; common medium subangular blocky structure; hard, very friable, sticky and plastic; few very fine, few fine, common medium and few coarse roots; common very fine interstitial pores; many thin clay films on faces of peds; 20 percent 2 to 5 mm gravel and 30 percent 5 to 75 mm gravel; slightly acid (pH 6.5); abrupt wavy boundary.

Bt2—16 to 22 inches; brown (7.5YR 5/4) very gravelly clay loam, dark brown (7.5YR 4/4) moist; strong fine and medium angular blocky structure; very hard, friable, very sticky and very plastic; few very fine, few fine, few medium and few coarse roots; few very fine interstitial and few very fine tubular pores; many moderately thick clay films on faces of peds and in pores; 10 percent 2 to 5 mm gravel and 50 percent 5 to 75 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

Bt3—22 to 35 inches; strong brown (7.5YR 5/6) very gravelly clay, strong brown (7.5YR 4/6) moist; strong medium angular blocky structure; very hard, very friable, very sticky and very plastic; few very fine, few fine and few medium roots; common very fine tubular pores; continuous thick clay films on faces of peds and in pores; 10 percent 2 to 5 mm gravel and 50 percent 5 to 75 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

Bt4—35 to 47 inches; reddish yellow (7.5YR 6/6) and olive gray (5Y 4/2) very gravelly clay, strong brown (7.5YR 5/6) and black (5Y 2.5/2) moist; strong fine and medium angular blocky structure; very hard, friable, very sticky and very plastic; few very fine and few fine roots; common very fine tubular pores; strong brown (7.5YR 5/6) continuous thick clay films on faces of peds and in pores strong brown (7.5YR 4/6) moist; 20 percent 2 to 5 mm gravel and 20 percent 5 to 75 mm gravel; slightly acid (pH 6.5); gradual irregular boundary.

Bt5—47 to 63 inches; reddish yellow (7.5YR 6/6) and olive gray (5Y 4/2) very gravelly clay, strong brown

(7.5YR 5/6) and black (5Y 2.5/2) moist; moderate fine and medium angular blocky structure; very hard, friable, very sticky and very plastic; few fine roots; common very fine tubular pores; many thick clay films on faces of peds and in pores; 20 percent 2 to 5 mm gravel and 20 percent 5 to 75 mm gravel; 30 percent of horizon is soft weathered rock, cut by spade with difficulty; slightly acid (pH 6.5).

Type location: About 0.6 miles east of the intersection of Highway 36 and the Susan River on the dirt road bound toward Cheney Creek; about 1,500 feet east and 800 feet south of the northwest corner of Sec. 8, T.29 N., R.12 E.

Range in Characteristics:

Soil moisture: Usually dry from July 15 to November 1, moist in all parts from December 1 to May 15. Xeric moisture regime.

Soil temperature: 47 to 50 degrees F.

Rock fragments: 0 to 10 percent cobbles and 35 to 40 percent gravel.

Control section:

Rock fragments—35 to 60 percent.

Clay content—35 to 45.

A horizon:

Value—4 to 5 dry, 3 moist.

Chroma—2 through 4, dry or moist.

B horizon:

Hue—7.5YR, 5Y.

Value—4 through 6 dry, 3 through 5 moist.

Chroma—2 through 6, dry or moist.

Reaction—Slightly acid or neutral.

Texture—Very gravelly clay loam or very gravelly clay.

Clay content—30 to 50 percent increases with depth.

Base saturation—75 to 80 percent.

Cagwin series

The Cagwin series consists of moderately deep, somewhat excessively drained soils on mountain back slopes. These soils formed in colluvium and residuum derived from granite. Slopes range from 15 to 50 percent.

Taxonomic class: Mixed, frigid, Dystric Xeropsamments

Typical pedon: Cagwin loamy coarse sand, located in map unit 137, forestland. (Colors are for dry soils

unless otherwise noted). The surface is partly covered by undecomposed litter of twigs and needles.

A—0 to 8 inches; brown (10YR 5/3) loamy coarse sand, dark brown (10YR 3/3) moist; weak very fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine interstitial pores; 5 percent 2 to 5 mm gravel; slightly acid (pH 6.3); clear wavy boundary.

AC—8 to 21 inches; pale brown (10YR 6/3) loamy coarse sand, brown (10YR 4/3) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and common fine and medium roots; many very fine and fine interstitial pores; 5 percent 2 to 5 mm gravel; slightly acid (pH 6.3); clear wavy boundary.

C—21 to 36 inches; pale brown (10YR 6/3) loamy coarse sand, brown (10YR 4/3) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine, fine medium and few coarse roots; many very fine and fine interstitial pores; 10 percent 2 to 5 mm gravel; slightly acid (pH 6.3); clear wavy boundary.

Cr—36 to 39 inches; soft decomposed granite; crushes with some difficulty to very gravelly coarse sand; few roots; slightly acid (pH 6.3).

Type location: about 1,400 feet west and 1,900 feet south of the northeast corner of Sec. 31, T.29 N., R.12 E.

Range in Characteristics:

Soil moisture: Usually dry from mid July through October 1, moist for the rest of the time. Xeric moisture regime.

Soil temperature: 40 to 47 degrees F.

Depth to a paralithic contact of weathered rock: 20 to 40 inches.

Control section:

Texture—Sand or loamy sand.

Epipedon—Ochric epipedons with mollic colors in the surface 5 to 9 inches.

A horizon:

Value—4 through 6 dry, 2 through 4 moist.

Chroma—2 through 4.

Texture—Loamy coarse sand or coarse sand.

Reaction—Slightly through strongly acid.

C horizon:

Value—6 to 7 dry, 3 to 4 moist.

Chroma—3 to 4, dry or moist.

Texture—Loamy coarse sand or coarse sand.

Rock fragments—5 to 30 percent gravel.

Reaction—Slightly through strongly acid.

Calnat series

The Calnat series consists of moderately deep, well drained soils on lake terraces. These soils formed in lacustrine deposits. Slopes range from 0 to 2 percent.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Xeric Natrargids

Typical pedon: Calnat sandy loam, located in map unit 139, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 3 inches; light gray (2.5Y 7/2) sandy loam, dark grayish brown (2.5Y 4/2) moist; strong thin and medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots, many very fine and fine vesicular pores; 5 percent calcium carbonate equivalent; slightly effervescent with disseminated lime; moderately alkaline (pH 8.0); abrupt wavy boundary.

A2—3 to 5 inches; pale brown (10YR 6/3) sandy loam, dark brown (10YR 3/3) moderate medium platy; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine and fine vesicular pores; slightly effervescent with disseminated lime; strongly alkaline (pH 8.5); clear wavy boundary.

Btnk—5 to 13 inches; light olive brown (2.5Y 5/4) sandy clay loam, dark grayish brown (2.5Y 4/2) moist; weak medium prismatic parting to moderate medium and coarse angular blocky structure; very hard, friable, sticky and plastic; few very fine, fine and medium roots; common very fine tubular pores; common thin clay films on faces of peds and bridges between mineral grains; sodium adsorption ratio is 39; electrical conductivity is 7 mmhos; 6 percent calcium carbonate equivalent; violently effervescent, lime segregated in few fine and medium soft masses; strongly effervescent with disseminated lime; strongly alkaline (pH 8.5); clear wavy boundary.

2Cnz—13 to 17 inches; white (2.5Y 8/2) loam, light yellowish brown (2.5Y 6/4) moist; weak medium angular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; no roots; many very fine and few fine interstitial pores; sodium adsorption ratio is 85; electrical conductivity is 24 mmhos; 22 percent calcium carbonate equivalent; common fine soft filaments and threads of gypsum; violently

effervescent with disseminated lime; strongly alkaline (pH 8.5); clear wavy boundary.

2C—17 to 28 inches; white (2.5Y 8/2) loam, olive brown (2.5Y 4/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; no roots; many very fine and few fine interstitial pores; violently effervescent with disseminated lime; strongly alkaline (pH 8.5); clear wavy boundary.

3Cr1—28 to 38 inches; white (2.5Y 8/2) soft tuffaceous siltstone lake sediments, olive (5Y 5/4) moist; moderate thin and medium platy rock structure; common very fine roots along faces of plates; noneffervescent in matrix but violently effervescent on faces of plates; clear wavy boundary.

3Cr2—38 to 60 inches; white (2.5Y 8/2) soft tuffaceous siltstone lake sediments, olive (5Y 5/4) moist; strong thin, medium and thick platy rock structure; few very fine roots along faces of plates; noneffervescent in matrix but violently effervescent on faces of some plates; few vertical cracks.

Type location: About 0.5 mile east of the intersection of two dirt roads and north of the east/west road; 100 feet north and 2,650 feet east of southwest corner of Sec. 18, T.27 N., R.16 E.

Range in Characteristics:

Soil moisture: Usually dry from June 1 to November 15 (167 days). It is moist throughout from December 1 to April 15. Aridic moisture regime bordering on xeric.

Soil temperature: 53 to 56 degrees F.

Depth to a paralithic contact: 20 to 40 inches.

Reaction: Moderately or strongly alkaline.

A horizon:

Hue—10YR, 2.5Y.

Value—6 to 7 dry, 3 to 4 moist.

Chroma—2 to 3, dry or moist.

Texture—Sandy loam or loamy sand.

Btnk horizon:

Hue—10YR, 2.5Y.

Value—5 through 7 dry, 3 to 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Sandy clay loam.

Clay content—20 to 25 percent clay and 50 to 80 percent sand.

SAR—25 to 50.

Electrical conductivity—8 to 16 mmhos.

Calcium carbonate equivalent—5 to 10 percent.

2C horizons:

Hue—2.5Y, 5Y.

Value—8 dry, 4 through 6 moist.
 Chroma—2 through 4, dry or moist.
 Texture—Loam or silt loam.
 Electrical conductivity—20 to 40 mmhos.
 SAR—50 to 100.
 Calcium carbonate equivalent—15 to 25 percent.

Calneva series

The Calneva series consists of very deep, moderately well drained soils on lake terraces. These soils formed in mixed lacustrine deposits. Slopes range from 0 to 1 percent.

Taxonomic class: Fine, smectitic, mesic Typic Natrargids

Typical pedon: Calneva silt loam located in map unit 141, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 2 inches; light gray (2.5Y 7/2) silt loam, dark grayish brown (2.5Y 4/2) moist; moderate medium and thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine and fine vesicular and interstitial pores; violently effervescent, with disseminated lime; moderately alkaline (pH 8.0); abrupt wavy boundary.

E—2 to 6 inches; white (10YR 8/2) silt loam, brown (10YR 5/3) moist; moderate thick and very thick platy structure; hard, friable, sticky and plastic; few very fine roots; many very fine vesicular and interstitial pores; violently effervescent, with disseminated lime; moderately alkaline (pH 8.0); clear wavy boundary.

Btk—6 to 16 inches; very pale brown (10YR 7/3) silty clay, brown (10YR 5/3) moist; moderate fine and medium prismatic structure that parts to moderate fine and medium angular blocky; hard, friable, very sticky and very plastic; common very fine and few fine and medium roots; common very fine tubular pores; many thin clay films on faces of peds and in pores; few fine soft filaments and threads of lime; strongly effervescent, with disseminated lime; moderately alkaline (pH 8.0); clear wavy boundary.

Bk—16 to 36 inches; light gray (2.5Y 7/2) loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, sticky and plastic; few fine and medium roots; many very fine tubular pores; few fine distinct brown (10YR 5/3) relict mottles, dark brown (10YR 4/3) moist; few fine soft filaments and threads of lime; violently effervescent, with disseminated lime; moderately alkaline (pH 8.0); abrupt wavy boundary.

2C—36 to 46 inches; white (10YR 8/2) and light gray (10YR 7/2) stratified loam and sand, pale brown (10YR 6/3) and brown (10YR 5/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few fine and medium roots; common very fine interstitial and few very fine tubular pores; horizon consists of strata of loam and strata of 0.5 to 1 mm ostracod shells; common fine distinct yellowish brown (10YR 5/4) relict mottles, dark yellowish brown (10YR 4/4) moist; violently effervescent, with disseminated lime; moderately alkaline (pH 8.0); abrupt wavy boundary.

3C—46 to 72 inches; white (2.5Y 8/2) stratified silt loam and silty clay loam; olive (5Y 5/3) moist; massive and weak very thick platy structure; hard and very hard; friable and firm, sticky and plastic; no roots; no pores; many fine and medium prominent strong brown (7.5YR 5/6) and reddish brown (5YR 5/4) relict mottles, distinct dark reddish brown (5YR 3/4) moist; 10 percent 20 to 40 mm irregular silica-lime concretions; at a depth of 46 to 48 inches is a layer of stratified sand and fine sand with few 2 to 5 mm gravel; few flat iron-manganese concretions at 48 inches; violently effervescent, with disseminated lime; moderately alkaline (pH 8.0).

Type location: Herlong siding at the north entrance of the Sierra Army Depot; about 4,800 feet southeast along railroad tracks from north entrance of Army Depot and about 500 feet due north of railroad; about 2,500 feet east and 2,600 feet north of the southwest corner of Sec. 19, T.28 N., R.17 E.

Range in Characteristics:

Soil moisture: Usually dry from April 15 to November 15 and moist in all parts from December 15 to March 15. Aridic moisture regime.

Soil temperature: 53 to 56 degrees F.

Solum thickness: 12 to 24 inches.

Depth to secondary carbonates: 6 to 24 inches.

Depth to 2C material: 35 to 45 inches.

A horizon:

Hue—10YR, 2.5Y.

Value—7 to 8 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Effervescence—Strongly or violently effervescent.

Btn horizon:

Hue—10YR, 2.5Y.

Value—6 to 7 dry, 3 to 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Silty clay loam or silty clay.

Clay content—35 to 50 percent clay and less than 15 percent sand.

Reaction—Moderately or strongly alkaline.

Effervescence—Strongly or violently effervescent.

SAR—13 to 100 percent.

Electrical conductivity—4 to 16 mmhos. Some pedons lack soft secondary carbonates.

Bk horizon:

Hue—10YR, 2.5Y.

Value—6 to 7 dry, 5 moist.

Chroma—2 through 4 dry, 3 to 4 moist.

Texture—Silt loam, loam, clay loam or silty clay loam.

Clay content—20 to 30 percent clay and 15 to 30 percent sand.

Reaction—Moderately or strongly alkaline.

Electrical conductivity—4 to 16 mmhos.

2C and 3C horizons:

Hue—10YR, 2.5Y, 5Y.

Value—7 to 8 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Textures—Highly stratified and include strata of sand, fine sand, very fine sand, very fine sandy loam, loam, silt loam, silty clay loam, and clay loam.

Reaction—Moderately or strongly alkaline.

Calpine series

The Calpine series consists of very deep, well drained soils on alluvial fans and fan remnants. These soils formed in mixed alluvium. Slopes range from 0 to 15 percent.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Aridic Haploxerolls

Typical pedon: Calpine sandy loam, located in map unit 143, cropland. (Colors are for dry soils unless otherwise noted).

Ap—0 to 7 inches; brown (10YR 4/3) sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial and common very fine tubular pores; 5 percent fine gravel; neutral (pH 7.3); gradual smooth boundary.

A1—7 to 13 inches; brown (10YR 4/3) sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine and medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial and common very fine

tubular pores; 5 percent fine gravel; neutral (pH 7.0); gradual smooth boundary.

AB—13 to 24 inches; brown (10YR 4/3) sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine and medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial and common tubular pores; 5 percent fine gravel; neutral (pH 7.0); gradual smooth boundary.

Bw—24 to 33 inches; brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; weak fine and medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial and common very fine tubular pores; 5 percent fine gravel; neutral (pH 7.0); clear smooth boundary.

Bw1—33 to 36 inches; yellowish brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 3/4) moist; weak fine and medium subangular blocky structure; hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial and common fine tubular pores; 10 percent hard, firm durinodes; 5 percent fine gravel; neutral (pH 7.0); clear smooth boundary.

Bw2—36 to 47 inches; yellowish brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 3/4) moist; weak fine and medium subangular blocky structure; hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial and common fine tubular pores; 3 percent hard, firm durinodes; 5 percent fine gravel; neutral (pH 7.0); clear wavy boundary.

C—47 to 60 inches; yellowish brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 3/4) moist; massive; hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial and common very fine tubular pores; 5 percent fine gravel; neutral (pH 7.0).

Type location: About 3 miles southeast of Milford, CA; 20 feet south of power pole number D24XL5 along Dieter's access lane, 2,500 feet north of residence along US Hwy 395; about 1,000 feet east and 800 feet south of the northwest corner of Sec. 32, T.27 N., R.15 E.

Range in Characteristics:

Soil moisture: Usually dry in all parts from June 15 through November 15 and is moist throughout December 15 through May 1. Aridic moisture regime bordering on xeric.

Soil temperature: 48 to 54 degrees F.

Control section:

Clay content—18 percent clay.

Texture—Fine sandy loam, sandy loam or coarse sandy loam. Strata of loamy sand or loamy coarse sand are present in some pedons. Fine stratification is lacking to a depth of 50 inches or more.

Reaction—Medium acid through neutral.

A horizon:

Hue—10YR, 7.5YR.

Value—4 to 5 dry, 2 to 3 moist.

Chroma—2 to 3, dry or moist.

Texture—Coarse sandy loam, sandy loam, fine sandy loam or loam.

Rock fragments—0 to 15 percent.

B horizon:

Hue—10YR, 7.5YR.

Value—5 through 7 dry, 3 to 4 moist.

Chroma—3 to 6, dry or moist.

Structure—Weak prismatic, angular blocky or subangular blocky.

Clay content—Commonly a clay increase of 1 to 2 percent from the overlying horizon, an insufficient increase to meet the requirements of an argillic horizon. Clay films range from absent to common thin films bridging mineral grains.

C horizon:

Hue—10YR, 5YR, 7.5YR, 2.5YR.

Value—3 through 7 dry, 3 through 6 moist.

Chroma—2 through 8, dry or moist.

Texture—Stratified loamy coarse sand through fine sandy loam or their gravelly equivalents modified by 5 to 30 percent gravel.

Capona series

The Capona series consists of moderately deep, well drained soils on low plateaus. These soils formed in colluvium and residuum weathered from volcanic tuff. Slopes range from 2 to 9 percent.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Aridic Haploxerolls

Typical pedon: Capona fine sandy loam located in map unit 147, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 3 inches; grayish brown (10YR 5/2) fine sandy loam, very dark grayish brown (10YR 3/2) moist; strong very fine granular structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine interstitial pores; 5 percent gravel; neutral (pH 7.0); clear smooth boundary.

A2—3 to 11 inches; grayish brown (10YR 5/2) fine sandy loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine interstitial, few very fine tubular pores; 5 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bw1—11 to 15 inches; brown (10YR 5/3) loam, dark yellowish brown (10YR 3/4) moist; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine interstitial and few very fine tubular pores; 5 percent gravel; neutral (pH 7.0); gradual wavy boundary.

Bw2—15 to 24 inches; brown (10YR 5/3) loam, dark yellowish brown (10YR 3/4) moist; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine interstitial, few very fine tubular pores; 5 percent gravel; neutral (pH 7.0); gradual wavy boundary.

Bw3—24 to 30 inches; brown (10YR 5/3) loam, dark yellowish brown (10YR 3/4) moist; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine interstitial and tubular pores; 5 percent gravel; neutral (pH 7.0); gradual wavy boundary.

Bw4—30 to 39 inches; brown (10YR 5/3) loam, dark yellowish brown (10YR 3/4) moist, weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine interstitial and tubular pores; 5 percent gravel; neutral (pH 7.0); abrupt wavy boundary.

R—39 to 43 inches; volcanic tuff.

Type location: Located 0.45 mile south southwest of the gravel pit and 1.1 miles west-north-west of the cemetery in Ash Valley, 0.45 mile south southwest of the northeast corner of Sec. 5, T.37 N., R.11 E.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring. Aridic moisture regime bordering on xeric.

Soil temperature: 48 to 53 degrees F.
Depth to hard bedrock: 20 to 40 inches.
Reaction: Slightly acid or neutral.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.
 Chroma—2 or 3, moist and dry.
 Rock fragments—0 to 30 percent and are gravel and cobbles and 0 to 3 percent stones.

B horizon:

Value—5 or 6 dry and chroma of 3 or 4 moist and dry.
 Texture—Sandy clay loam or loam.
 Clay content—18 to 27 percent clay.
 Rock fragments—Averages 5 to 30 percent, 5 to 20 percent gravel and 15 to 30 percent cobbles.

Cewat series

The Cewat series consists of moderately deep, well drained soils on fan remnants. These soils formed in alluvium and colluvium derived from basalt or andesite. Slopes range from 5 to 15 percent.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Xeric Haplocambids

Typical pedon: Cewat very stony fine sandy loam, located in map unit 148, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 4 inches; pale brown (10YR 6/3) very stony fine sandy loam, very dark grayish brown (10YR 3/2) moist; moderate very thin and thin platy structure; slightly hard, very friable, sticky and plastic; common very fine and fine and few medium roots; 10 percent stones, 5 percent cobbles, and 20 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bw1—4 to 9 inches; pale brown (10YR 6/3) very gravelly loam, dark brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, sticky and plastic; many very fine and common fine and medium roots; common very fine tubular and interstitial pores; 5 percent cobbles and 50 percent gravel; slightly alkaline (pH 7.5); clear wavy boundary.

Bw2—9 to 15 inches; pale brown (10YR 6/3) extremely gravelly loam, dark brown (10YR 4/3) moist; moderate very fine and fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine and medium roots; common very fine tubular and interstitial pores; 15 percent cobbles and 65 percent gravel; slightly alkaline (pH 7.5); clear wavy boundary.

Bk—15 to 21 inches; pale brown (10YR 6/3) extremely gravelly loam, dark brown (10YR 4/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine interstitial pores; 15 percent cobbles and 65 percent gravel; strongly effervescent, lime is disseminated with few soft masses in lower part; slightly alkaline (pH 7.5); abrupt irregular boundary.

R—21 inches; hard fractured basalt. Bedrock fractures somewhat horizontal. Silica and lime coatings are in fractures and on faces of rock and few very fine roots along fractures. In some places, pockets are strongly effervescent above the rock.

Type location: about 1.6 miles going east from Skedaddle Creek and Wendel Road, then left on dirt road 1.45 miles north to site, 3,400 feet east and 1,500 feet south of the northwest corner of Section 24, T.28 N., R.17 E.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry in summer and fall. Aridic moisture regime bordering on xeric.

Soil temperature: 54 to 59 degrees F.

Depth to bedrock: 20 to 40 inches.

Control section:

Clay content—15 to 25 percent.

Rock fragments—35 to 75 percent average, mostly pebbles.

A horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3.

Reaction—Neutral or slightly alkaline.

Carbonates—Noneffervescent, but may have few thin lime pendants on rock fragments.

Bw horizons:

Chroma—3 or 4.

Clay content—Averages 18 to 25 percent, subhorizons range from 15 to 27 percent.

Rock fragments—Averages 35 to 75 percent, subhorizons range from 25 to 90 percent, mostly pebbles.

Reaction—Neutral to moderately alkaline.

Carbonates—Noneffervescent in the upper part, may be slightly effervescent in the lower part.

Bk horizon:

Value—6 or 7 dry.

Chroma—3 or 4.

Clay content—15 to 20 percent.

Rock fragments—35 to 90 percent, mostly pebbles.

Reaction—Slightly alkaline to strongly alkaline.

Carbonates—Strongly or violently effervescent; secondary carbonates occur as pendants under rock fragments or as soft threads or masses.

Other features—Bk horizon may be absent in pedons with bedrock at less than 30 inches; however lime will at least partially coat bedrock in these pedons.

Chalco series

The Chalco series consists of shallow, well drained soils on plateaus and rock pediments. These soils formed in colluvium and residuum weathered from tuff. Slopes are 0 to 30 percent.

Taxonomic class: Clayey, smectitic, mesic, shallow Xeric Haplargids

Typical pedon: Chalco gravelly fine sandy loam located in map unit 395, rangeland. (Colors are for dry soils unless otherwise noted). Surface rock fragments are 35 percent gravel.

A—0 to 4 inches; pale brown (10YR 6/3), gravelly fine sandy loam, dark brown (10YR 3/3) moist; moderate, thick and very thick platy structure; slightly hard, very friable, sticky and plastic; few very fine roots; many very fine and fine vesicular and interstitial pores; 20 percent gravel; neutral (pH 7.3); abrupt wavy boundary.

Bt1—4 to 10 inches; yellowish brown (10YR 5/4) clay; clay; dark yellowish brown (10YR 3/4) moist; moderate, fine and medium prismatic structure parting to strong, medium and coarse angular blocky; very hard, friable, very sticky and very plastic; many very fine, common fine, medium, and coarse roots; common very fine interstitial and tubular pores; many thin and moderately thick clay films on faces of peds and in pores; slightly alkaline (pH 7.8); clear wavy boundary.

Bt2—10 to 15 inches; light yellowish brown (10YR 6/4) clay, dark yellowish brown (10YR 4/4) moist; moderately medium and coarse angular blocky structure, very hard, friable, very sticky and very plastic; common very fine, few fine and medium roots; common very fine interstitial and few very fine tubular pores; 12 percent gravel of tuff; many thin and moderately thick clay films on faces of peds and in pores; slightly effervescent with disseminated lime, slightly alkaline (pH 7.8) abrupt wavy boundary.

Cr—15 to 20 inches; soft weathered tuff, violently effervescent with disseminated lime.

Type location: about 25 feet west of trail, and about 3,000 feet east and 1,500 feet south of the northwest corner of Sec. 1 (projected), T.28 N., R.17 E.

Range in Characteristics:

Soil moisture: Moist in winter and early spring, dry in summer and autumn. Aridic moisture regime bordering on xeric.

Soil temperature: 50 to 57 degrees F.

Depth to soft bedrock: 10 to 20 inches.

Control section:

Percent clay—35 to 60.

Rock fragments—0 to 20 percent.

A horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3.

Structure—Platy, granular or subangular blocky.

Reaction—Slightly acid through slightly alkaline.

Bt horizon:

Value—4 through 6 dry, 4 or 5 moist.

Chroma—3 or 4.

Clay content—40 to 60 percent.

Texture—Clay or silty clay.

Rock fragments—Average 0 to 15 percent.

Structure—Commonly prismatic but angular blocky in some pedons.

Reaction—Slightly acid through moderately alkaline.

Other features—Less than 15 percent sand coarser than very fine sand.

Chappuis series

The Chappuis series consists of very deep, moderately well drained soils on lake terraces. These soils formed in mixed lacustrine deposits. Slopes range from 0 to 2 percent.

Taxonomic class: Fine, smectitic, mesic Xeric Natrargids

Typical pedon: Chappuis silt loam, located in map unit 151, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 4 inches; pale brown (10YR 6/3) silt loam, dark brown (10YR 3/3) moist; moderate coarse prismatic structure parting to moderate thin platy; slightly hard, very friable, slightly sticky and plastic; few very fine and common medium roots; many very fine tubular

- pores; violently effervescent with disseminated lime; slightly alkaline (pH 7.8); abrupt smooth boundary.
- A2—4 to 10 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate coarse medium platy; slightly hard, very friable, slightly sticky and plastic; common very fine and fine, many medium roots; many very fine tubular pores; moderately alkaline (pH 8.0); abrupt smooth boundary.
- Btkn1—10 to 13 inches; brown (10YR 5/3) silty clay, dark brown (10YR 3/3) moist; strong medium columnar structure parting to strong fine angular blocky; very hard, friable, sticky and plastic; common very fine roots; many very fine tubular pores; continuous thin clay films on faces of peds; strongly effervescent with lime on peds, noneffervescent within peds; sodium adsorption ratio is 28; electrical conductivity is 2 mmhos/cm; moderately alkaline (pH 8.2); clear smooth boundary.
- Btkn2—13 to 19 inches; brown (10YR 5/3) silty clay, dark yellowish brown (10YR 3/4) moist; strong fine angular blocky structure; very hard, friable, sticky and plastic; common very fine roots; many very fine tubular pores; continuous thin clay films on faces of peds; strongly effervescent with lime on peds, noneffervescent within peds; sodium adsorption ratio is 46; electrical conductivity is 3 mmhos/cm; moderately alkaline (pH 8.2); clear smooth boundary.
- Bkqnz—19 to 25 inches; pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; hard, friable, slightly sticky and plastic; few very fine roots; many very fine tubular pores; few thin clay films on faces of peds and in pores; 15 percent hard firm durinodes; violently effervescent, lime segregated in common, medium, irregular seams; sodium adsorption ratio is 45; electrical conductivity is 30 mmhos/cm; moderately alkaline (pH 8.2); clear smooth boundary.
- Cnz1—25 to 38 inches; light yellowish brown (2.5Y 6/4) silt loam, brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; hard, friable, slightly sticky and plastic; few fine and very fine roots; many very fine tubular pores; strongly effervescent with disseminated lime; sodium adsorption ratio is 45; electrical conductivity is 30 mmhos/cm; moderately alkaline (pH 8.2); clear wavy boundary.
- Cnz2—38 to 49 inches; light brownish gray (2.5Y 6/2) silt loam, brown (10YR 4/3) moist; common fine distinct dark yellowish brown mottles (10YR 3/4) moist; massive; hard, firm, slightly sticky and slightly plastic; few very fine roots; many very fine tubular pores; texture has a gritty feeling; strongly effervescent with disseminated lime; sodium adsorption ratio is 40; electrical conductivity is 31 mmhos/cm; moderately alkaline (pH 8.0); clear wavy boundary.

Cnz3—49 to 60 inches; light gray (2.5Y 7/2) silt loam, brown (10YR 4/3) moist; common fine distinct dark yellowish brown mottles (10YR 4/4 and 4/6) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine tubular pores; strongly effervescent with disseminated lime; sodium adsorption ratio is 70; electrical conductivity is 30 mmhos/cm; moderately alkaline (pH 8.0).

Type location: About 3 miles northwest of Standish; 40 feet south and 40 west of the southwest fence corner at the intersection of Chappuis Lane and Center Road; 2,600 feet north and 50 feet west of the southeast corner of Sec. 1, T.29 N., R.13 E.

Range in Characteristics:

Soil moisture: Usually dry from mid-June to mid-November, moist throughout from December 1 through April 15. Aridic moisture regime bordering on xeric.

Soil temperature: 53 to 56 degrees F.

Combined thickness of A and Btkn horizons: 13 to 20 inches.

Depth to secondary carbonates: 3 to 15 inches.

A horizon:

Hue—10YR, 2.5YR.
 Value—5 to 6 dry, 3 to 4 moist.
 Chroma—2 to 3, dry or moist.
 Texture—Silt loam or sandy loam or coarse sandy loam.
 Reaction—Slightly alkaline or moderately alkaline, but may be neutral in thin sandy loam or coarse sandy loam A1 horizons.

Btkn horizon:

Value—5 to 6 dry, 3 to 4 moist.
 Chroma—2 through 4, dry or moist.
 Clay content—40 to 50 percent.
 SAR—20 to 50.
 Reaction—Moderately alkaline or strongly alkaline.
 Electrical conductivity—2 to 8 mmhos/cm.

Bkq horizon:

Hue—10YR, 2.5Y.
 Value—6 to 7 dry, 2 through 5 moist.
 Chroma—2 through 4, dry or moist.
 Texture—Silty clay loam, loam or silt loam with 20 to 30 percent clay and 5 to 20 percent durinodes.
 Reaction—Moderately alkaline or strongly alkaline.
 SAR—30 to 60.
 Electrical conductivity—2 to 8 mmhos/cm.

C horizon:

Hue—2.5Y, 10YR.

Value—6 to 7 dry, 4 to 5 moist.
 Chroma—2 through 4, dry or moist.
 Texture—Very fine sandy loam, loam or silt loam.
 Rock fragments—0 to 15 percent gravel size tuff.
 Reaction—Moderately alkaline or strongly alkaline.
 Electrical conductivity—16 to 35 mmhos/cm.
 SAR—40 to 100.

Chimney series

The Chimney series consists of very deep, somewhat excessively drained soils on mountain back slopes and toe slopes. These soils formed in colluvium and residuum derived from granitic rocks. Slopes range from 2 to 75 percent.

Taxonomic class: Mixed, mesic Typic Xeropsamments

Typical pedon: Chimney gravelly loamy coarse sand, forestland. Located in map unit 153 (Colors are for dry soils unless otherwise noted). The surface is partly covered by undecomposed litter of twigs and needles.

- A1—0 to 6 inches; grayish brown (10YR 5/2) gravelly loamy coarse sand, very dark grayish brown (10YR 3/2) moist; moderate medium and coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine roots; many very fine interstitial pores; 25 percent gravel 2 to 5 mm across and 5 percent gravel 5 to 75 mm across; slightly acid (pH 6.1); abrupt smooth boundary.
- A2—6 to 13 inches; light yellowish brown (10YR 6/4) gravelly loamy coarse sand, dark yellowish brown (10YR 3/4) moist; moderate coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine, fine and medium roots; many very fine interstitial pores; 25 percent gravel 2 to 5 mm across; slightly acid (pH 6.5); clear wavy boundary.
- AC—13 to 20 inches; pale brown (10YR 6/3) gravelly loamy coarse sand, brown (10YR 4/3) moist; weak coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine interstitial pores; 20 percent gravel 2 to 5 mm across; slightly acid (pH 6.5); clear wavy boundary.
- C1—20 to 35 inches; light yellowish brown (10YR 6/4) gravelly loamy coarse sand, dark yellowish brown (10YR 4/4) moist; weak coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine and fine, common medium roots; many very fine interstitial pores; 20 percent gravel 2 to 5 mm across and 5 percent gravel 5 to 75 mm across; slightly acid (pH 6.5); clear wavy boundary.

- C2—35 to 42 inches; pale brown (10YR 6/3) coarse sand, brown (10YR 4/3) moist; single grain; loose, very friable, nonsticky and nonplastic; few very fine and fine roots; many very fine interstitial pores; 10 percent gravel 2 to 5 mm across; few 1 to 2 mm silt bands; slightly acid (pH 6.5); clear wavy boundary.
- C3—42 to 52 inches; light yellowish brown (10YR 6/4) sand, dark yellowish brown (10YR 4/4) moist; single grain; loose, very friable, nonsticky and nonplastic; no roots; many very fine interstitial pores; 10 percent gravel 2 to 5 mm across; slightly acid (pH 6.5); clear wavy boundary.
- 2C—52 to 60 inches; very pale brown (10YR 7/4) sand, yellowish brown (10YR 5/4) moist; single grain; loose, nonsticky and nonplastic; no roots; many very fine interstitial pores; 3 percent gravel 2 to 5 mm across; slightly acid (pH 6.5).

Type location: About 0.9 mile along the dirt road which is westbound from Hwy 395 at a point 0.4 mile south of the southern intersection of Lake Crest Road and Hwy 395; about 3.2 miles southeast of Buntingville; 500 feet west and 600 feet south of the northeast corner of Sec. 1, T.27 N., R.13 E.

Range in Characteristics:

Soil moisture: Usually dry from August 1 to November 1, moist in all parts from November 15 to June 1. Xeric moisture regime.

Soil temperature: 47 to 50 degrees F.

Control section:

Rock fragments—5 to 25 percent gravel.

Depth to weathered bedrock—60 to 80 inches.

A horizon:

Value—5 to 6 dry, 3 to 4 moist.

Chroma—2 through 4, dry or moist.

Rock fragments—15 to 30 percent, mostly gravel.

C horizon:

Value—5 through 7 dry, 3 through 5 moist.

Chroma—3 to 4, dry or moist.

Texture—Loamy coarse sand, coarse sand, sand or their gravelly equivalents with 5 to 30 percent gravel.

Reaction—Slightly acid or neutral.

Base saturation—50 to 60 percent.

Chirpchatter series

The Chirpchatter series consists of very deep, well drained soils on fan remnants. These soils formed in mixed alluvium. Slopes range from 2 to 9 percent.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Ultic Argixerolls

Typical pedon: Chirpchatter sandy loam, located in map unit 157, forestland. (Colors are for dry soils unless otherwise noted). Surface is covered with needles and twigs.

A1—0 to 4 inches; grayish brown (10YR 5/2) sandy loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and few fine roots; many very fine interstitial pores; slightly acid (pH 6.5); clear wavy boundary.

A2—4 to 11 inches; brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; moderate medium and coarse subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, few fine, medium and coarse roots; many very fine interstitial pores; slightly acid (pH 6.5); clear wavy boundary.

Bt1—11 to 19 inches; very pale brown (10YR 7/4) sandy clay loam, yellowish brown (10YR 5/4) moist; strong fine angular blocky structure; hard, very friable, sticky and plastic; few very fine and fine, common medium and coarse roots; many very fine tubular pores; continuous moderately thick yellowish brown (10YR 5/6) clay films, dark yellowish brown (10YR 3/4) moist, on peds and in pores; 10 percent 5 to 75 mm gravel; slightly acid (pH 6.5); gradual wavy boundary.

Bt2—19 to 36 inches; very pale brown (10YR 7/4) sandy clay loam, yellowish brown (10YR 5/4) moist; strong medium angular blocky structure; very hard, firm, sticky and plastic; few very fine, fine and medium roots; continuous moderately thick yellowish brown (10YR 5/6) clay films, dark brown (10YR 3/3) moist, on peds and in pores; 10 percent 5 to 75 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

Bt3—36 to 52 inches; yellowish brown (10YR 5/6) sandy clay loam, dark yellowish brown (10YR 3/4) moist; weak coarse angular blocky structure; slightly hard, very friable, sticky and plastic; few very fine roots; many very fine interstitial pores; common thin clay films on faces of peds; slightly acid (pH 6.5); clear wavy boundary.

BC—52 to 65 inches; light brownish gray (2.5Y 6/2) loam, dark grayish brown (2.5Y 4/2) moist; common fine prominent yellowish brown (10YR 5/6) mottles, dark yellowish brown (10YR 3/6) moist; massive; slightly hard, very friable, sticky and plastic; few very fine, fine and medium roots; many very fine interstitial and common fine tubular pores; neutral (pH 7.0).

Type location: Janesville; about 150 feet north and 25 feet west of the corner of Main and Christie Streets; 100 feet west and 2,000 feet south of the northeast corner of Section 8, T.28 N., R.13 E.

Range in Characteristics:

Soil moisture: Usually dry from early July until early November, moist from January 15 through April 1. Xeric moisture regime.

Soil temperature: 47 to 52 degrees F.

Mollic epipedon: 10 to 16 inches thick.

Control section:

Rock fragments—20 to 27 percent clay.

A horizon:

Hue—10YR, 7.5YR

Value—4 to 5 dry, 3 moist.

Chroma—2 through 4, dry or moist.

Rock fragments—Mostly gravel, 0 to 15 percent.

Upper Bt horizon:

Hue—10YR, 7.5YR.

Value—4 through 7 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

Lower Bt horizon:

Hue—2.5Y, 10YR, 7.5YR, 5YR.

Value—4 to 7 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Sandy clay loam in the upper part and gravelly sandy loam in the lower part.

Clay content—15 to 27 percent.

Rock fragments—Mostly gravel, 5 to 20 percent.

Reaction—Slightly acid to neutral.

Cleghorn series

The Cleghorn series consists of very deep, well drained soils on fan remnants. These soils formed in alluvium from volcanic rocks. Slopes range from 0 to 5 percent.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Durinodic Xeric Haplargids

Typical pedon: Cleghorn sandy loam, located in map unit 158, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 3 inches; light brownish gray (10YR 6/2) sandy loam, very dark grayish brown (10YR 3/2) moist; moderate thick and very thick platy structure; hard, very friable, slightly sticky and slightly plastic;

- common very fine roots; many very fine interstitial pores; neutral (pH 6.8); clear wavy boundary.
- A2—3 to 7 inches; light brownish gray (10YR 6/2) sandy loam, dark grayish brown (10YR 4/2) moist; moderate very thick platy structure; hard, friable, sticky and plastic; common very fine and fine roots; many very fine interstitial pores; neutral (pH 7.0); clear wavy boundary.
- Bt1—7 to 11 inches; pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; moderate fine and medium prismatic structure parting to strong medium and coarse angular blocky; very hard, friable, sticky and plastic; common very fine, few fine and medium roots; many very fine tubular and interstitial pores; many thin and moderately thick clay films on faces of peds and in pores; common clean sand grains from above horizon on faces of prisms; neutral (pH 7.0); clear wavy boundary.
- Bt2—11 to 15 inches; light yellowish brown (10YR 6/4) clay loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium prismatic structure parting to moderate medium and coarse angular blocky; hard, friable, sticky and plastic; common very fine and few fine roots; common very fine tubular and interstitial pores; many thin and moderately thick clay films on faces of peds and in pores; neutral (pH 7.2); clear wavy boundary.
- Btk—15 to 19 inches; light yellowish brown (10YR 6/4) loam, brown (10YR 4/3) moist; weak medium and thick platy structure parting to moderate fine and medium angular blocky; hard, friable, sticky and plastic; few very fine and fine roots; common very fine tubular and interstitial pores; common thin clay films on faces of peds and in pores; slightly effervescent with disseminated lime (5 percent CaCO_3); slightly alkaline (pH 7.4); gradual wavy boundary. (0 to 6 inches thick)
- Bkq1—19 to 34 inches; very pale brown (10YR 7/3) sandy loam, brown (10YR 4/3) moist; massive; hard, firm, brittle wet; few very fine roots; many very fine interstitial pores; continuous brittle matrix; few very thin (less than 1/2 mm) horizontal discontinuous silica laminae; strongly effervescent, lime segregated in common fine filaments (6 percent CaCO_3); slightly alkaline (pH 7.6); gradual wavy boundary.
- Bkq2—34 to 60 inches; light gray (10YR 7/2) loam, brown (10YR 4/3) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine tubular pores; few 5 to 15 mm very hard durinodes; few 10 to 20 mm silica concretions; strongly effervescent, lime segregated in common fine and medium filaments (8 percent CaCO_3); slightly alkaline (pH 7.8).

Type location: about 1.8 miles north of the Big Mud Flat on Hwy 395, and 0.4 mile east of Hwy 395; about 400 feet west and 100 feet south of the northeast corner, Sec. 34, T.31 N., R.15 E.

Range in Characteristics:

- Soil moisture:* Usually dry June 15 to November 15, moist in all parts from December 1 to May 1. Arid moisture regime bordering on xeric.
- Soil temperature:* 50 to 55 degrees F.
- Thickness of the A and Bt horizons and depth to the continuous weakly silica-cemented Bkq horizon:* 15 to 20 inches but ranges to 30 inches.
- Reaction:* Neutral or slightly alkaline in the solum.
- Depth to carbonates:* 15 to 35 inches, but in some pedons it ranges as deep as 40 inches.
- Control section:*
Sand content—30 to 50 percent.

A horizon:

- Value—5 through 7 dry, 3 to 4 moist.
Chroma—2 to 3, dry or moist.
Texture—Sandy loam or loam.
Structure—Upper part of the A horizon is weak or moderate, thin to very thick platy, and the lower part is platy or is platy parting to weak or moderate, fine or medium subangular or angular blocky.
Rock fragments—0 to 10 percent.

Bt horizon:

- Hue—10YR, 7.5YR.
Value—2 through 4, dry or moist.
Chroma—2 through 4, dry or moist.
Texture—Loam, sandy clay loam, or clay loam.
Clay content—20 to 35 percent.
Structure—Moderate fine or medium prismatic or is prismatic parting to moderate or strong fine to coarse subangular or angular blocky.
Rock fragments—0 to 5 percent.

Bkq horizon:

- Value—6 to 7 dry, 4 moist.
Chroma—3 to 4, dry or moist.
Texture—When crushed, it is commonly sandy loam, but in some pedons it ranges to loam.
Reaction—Slightly or moderately alkaline.
Durinodes—0 to 15 percent.
Carbonates—Lime is segregated in few or common fine or medium filaments or threads and is slightly or strongly effervescent.
Rock fragments—0 to 10 percent.
Calcium Carbonate equivalent—2 to 9 percent.

Bk horizon (when present):

- Value—6 to 7 dry, 4 moist.

Chroma—2 to 4, dry or moist.

Texture—Loam, but ranges to fine sandy loam in some pedons.

Reaction—Slightly or moderately alkaline; lime is disseminated or is segregated in few or common, fine or medium filaments or threads.

Effervescence—Slightly or strongly effervescent.

Durinodes—Very hard or hard, dry and firm, moist, 5 to 30 mm durinodes, 0 to 10 percent.

Rock fragments—5 to 15 percent.

Calcium carbonate equivalent—2 to 9 percent.

Cochran series

The Cochran series consists of very deep, well drained soils on lake terraces. These soils formed in alluvium weathered from volcanic rocks. Slopes range from 2 to 15 percent.

Taxonomic class: Clayey-skeletal, smectitic, mesic Aridic Argixerolls

Typical pedon: Cochran very cobbly loam, located in map unit 161, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 5 inches; brown (10YR 5/3) very cobbly loam, very dark grayish brown (10YR 3/2) moist; moderate thick and very thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots, many very fine interstitial pores; 3 percent stones, 20 percent cobbles, and 30 percent gravel; neutral (pH 6.6); clear wavy boundary.

A2—5 to 11 inches; dark grayish brown (10YR 4/2) very cobbly loam, very dark brown (10YR 2/2) moist; moderate fine and medium subangular blocky structure; hard, very friable, sticky and plastic; many very fine, common fine and few medium roots; common very fine interstitial and tubular pores; 5 percent stones, 20 percent cobbles and 30 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt1—11 to 19 inches; yellowish brown (10YR 5/4) extremely cobbly clay loam, dark brown (10YR 3/3) moist; strong medium and coarse angular blocky structure; very hard, friable, sticky and plastic; common very fine and few fine and medium roots; many very fine interstitial and common very fine tubular pores; common thin and moderately thick clay films on faces of peds and in pores; 5 percent stones, 30 percent cobbles, and 30 percent gravel; neutral (pH 7.0); gradual smooth boundary.

Bt2—19 to 31 inches; light yellowish brown (10YR 6/4) very gravelly clay, brown (10YR 4/3) moist; moderate

fine and medium prismatic structure parting to strong medium and coarse angular blocky; very hard, very sticky and very plastic; few very fine, fine and medium roots; common very fine interstitial and tubular pores; common thin and moderately thick clay films on faces of peds and in pores; common pressure faces; 5 percent stones, 5 percent cobbles and 40 percent gravel; neutral (pH 7.0); clear wavy boundary.

C1—31 to 48 inches; light yellowish brown (2.5Y 6/4) stratified extremely cobbly loam, olive brown (2.5Y 4/4) moist; moderate fine and medium angular blocky structure; hard, very friable, sticky and plastic; few very fine, fine and medium roots; many very fine interstitial pores; 10 percent stones, 20 percent cobbles, and 40 percent gravel; slightly alkaline (pH 7.5); clear wavy boundary.

C2—48 to 72 inches; light yellowish brown (10YR 6/4) stratified extremely cobbly loam, sandy loam and loamy coarse sand, dark yellowish brown (10YR 3/4) moist; massive; hard, very friable, nonsticky through sticky and nonplastic through plastic; pockets of common very fine and fine roots; many very fine interstitial pores; 15 percent stones, 30 percent gravel, and 35 percent cobbles; slightly alkaline (pH 7.5).

Type location: About 6.1 miles south of Madeline to the intersection of County Road 535 and Hwy 395, then about 1,900 feet along County Road 535 to trail; 100 feet east of County Road and 50 feet south of trail; about 1,300 feet west and 100 feet north of the southeast corner of Sec. 8, T.36 N., R.13 E.

Range in Characteristics:

Soil moisture: Usually dry in all parts from June 15 through November 15, moist in all parts from about December 1 through April 15. Aridic moisture regime bordering on xeric.

Soil temperature: 47 to 50 degrees F.

Solum thickness: 30 to 50 inches.

Mollic epipedon: 11 to 19 inches thick and includes part of the B horizon.

Rock fragments: Mostly stones and cobbles, 15 to 40 percent.

A horizon:

Value—4 to 5 dry, 2 to 3 moist.

Chroma—1 through 3, dry or moist.

Rock fragments—40 to 75 percent for any one horizon but average 50 to 60 percent when mixed, for very cobbly phases, 25 to 30 percent gravel.

Bt horizon:

Value—4 through 6 dry, 2 through 4 moist.

Chroma—2 through 4, dry or moist.

Clay content—38 to 45 percent in the upper 20 inches of the argillic horizon and ranges from 45 to 50 percent in the lower part.

Rock fragments—50 to 80 percent.

C horizon:

Chroma—10YR, 2.5Y.

Value—6 dry, 3 to 4 moist.

Chroma—2 through 4, dry or moist.

Rock fragments—70 to 85 percent.

Reaction—Neutral or slightly alkaline.

Corral series

The Corral series consists of shallow, well drained soils on rock pediments, mountains, or plateau escarpments. These soils formed in alluvium weathered from tuffaceous sandstone and diatomaceous earth. Slopes range from 2 to 50 percent.

Taxonomic class: Loamy, mixed, superactive, mesic, shallow Xeric Haplagids

Typical pedon: Corral sandy loam, located in map unit 164, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 2 inches; grayish brown (10YR 5/2) sandy loam, very dark grayish brown (10YR 3/2) moist; strong very fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; 10 percent gravel; neutral (pH 6.8); clear wavy boundary.

A2—2 to 4 inches; light brownish gray (10YR 6/2) sandy loam, very dark grayish brown (10YR 3/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; many very fine interstitial and common very fine tubular pores; neutral (pH 7.0); clear wavy boundary.

Bt—4 to 12 inches; light yellowish brown (10YR 6/4) sandy clay loam, dark brown (10YR 4/3) moist; moderate very fine prismatic structure parting to moderate very fine and fine angular blocky; hard, friable, sticky and plastic; common very fine, fine and medium roots; common very fine tubular pores; many thin and moderately thick clay films on faces of peds and in pores; slightly alkaline (pH 7.4); abrupt wavy boundary.

Cr—12 inches; strongly fractured soft tuffaceous sandstone with horizontal and vertical fractures 2 to 10 inches apart. Common fine and medium roots are along cracks and fractures. Common thin and

moderately thick clay films in the upper part along fractures.

Type location: About 1.5 miles south of the Karlo Road on Hwy 395 and 0.6 mile east of Hwy 395 on dirt road and 500 feet south of this dirt road, 150 feet south of fence, about 2,100 feet south and 700 feet west of the northeast corner of Sec. 11, T.31 N., R.15 E.

Range in Characteristics:

Soil moisture: Usually dry June through mid November and moist in all parts from early December to May 1.

Aridic moisture regime bordering on xeric.

Soil temperature: 47 to 53 degrees F.

Depth to the paralithic contact: 14 to 20 inches.

Control section:

Clay content—20 to 35 percent clay, 30 to 50 percent sand and 15 to 30 percent silt.

Carbonates—Some pedons have segregated and disseminated lime in the upper part of the bedrock and along fractures.

A horizon:

Value—5 to 6 dry, 3 to 4 moist.

Chroma—2 to 3, dry or moist.

Texture—Sandy loam, loam, very cobbly loam, or extremely stony loam, overblown phases have loamy fine sand surface texture.

Rock fragments—Cobbles and gravel range from 0 to 50 percent and stones range from 0 to 55 percent.

Reaction—Neutral or slightly alkaline.

Bt horizon:

Hue—10YR, 7.5YR.

Value—4 through 6 dry, 4 moist.

Chroma—3 to 4, dry or moist.

Texture—Loam, sandy clay loam or clay loam.

Rock fragments—Mostly gravel, 0 to 15 percent.

Structure—Prismatic parting to angular blocky or is subangular blocky.

Reaction—Neutral or slightly alkaline.

Deadwood taxadjunct

The Deadwood taxadjunct consists of shallow, somewhat excessively drained soils on ridges. These soils formed in residuum weathered from metavolcanic rock. Slopes range from 9 to 50 percent.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Lithic Dystroxerepts

Typical pedon: Deadwood very gravelly sandy loam, located in map unit 311, forestland. (Colors are for dry soils unless otherwise noted).

A—0 to 4 inches; brown (10YR 5/3) very gravelly sandy loam, dark brown (10YR 3/3) moist; moderate medium angular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; common very fine interstitial pores; 30 percent 2 to 5 mm gravel and 10 percent 5 to 75 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

Bw1—4 to 9 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, brown (10YR 4/3) moist; moderate fine and medium angular blocky structure; hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine interstitial pores; 30 percent 2 to 5 mm gravel and 10 percent 5 to 75 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

Bw2—9 to 16 inches; yellowish brown (10YR 5/4) extremely gravelly sandy loam, brown (10YR 4/3) moist; moderate fine angular blocky structure; hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine interstitial pores; 50 percent gravel; 20 percent cobbles; slightly acid (pH 6.5); abrupt wavy boundary.

R—16 to 20 inches; hard metavolcanic rock.

Type location: About 5.1 miles east of Westwood; 0.5 mile north of Home Ranch on dirt road and 1,000 feet upslope; 200 feet east and 2,500 feet south of northwest corner of Section 18, T.28 N., R.10 E.

Range in Characteristics:

Soil moisture: Usually dry from July to mid October, moist the rest of the time. Xeric moisture regime.

Soil temperature: 47 to 53 degrees F.

Depth to a lithic contact: 10 to 20 inches.

Rock fragments: 20 to 75 percent throughout the profile with the control section averaging more than 35 percent.

A horizon:

Hue—10YR, 7.5YR.

Value—4 through 6 dry, 3 to 4 moist.

Chroma—1 through 4, dry or moist.

Texture—Sandy loam, loam, or silt loam and is gravelly or very gravelly.

Reaction—Slightly through strongly acid.

Bw horizon:

Hue—10YR, 7.5YR.

Value—5 through 7 dry, 4 through 6 moist.

Chroma—2 through 6, dry or moist.

Structure—Weak or moderate subangular blocky.

Texture—Silt loam, sandy loam or loam with a slight clay increase over the A horizon and is very or extremely gravelly.

Base saturation—40 to 60 percent.

Remarks:

The soils mapped as Deadwood in this survey are taxadjuncts to the series and classify as Loamy-skeletal, mixed, superactive, frigid, Lithic Dystroxerepts, Deadwood series is mesic. They have slightly cooler soil temperatures of 43 to 45 degrees F., lower rainfall of 30 to 40 inches, and lower frost free season of 60 to 80 days. These differences, however, do not significantly affect use and management.

Devada series

The Devada series consists of shallow, well drained soils on plateaus, back slopes of mountains, and plateau escarpments. These soils formed in residuum weathered from basalt or andesite. Slopes range from 0 to 50 percent.

Taxonomic class: Clayey, smectitic, mesic Lithic Argixerolls

Typical pedon: Devada very cobbly loam, located in map unit 175, rangeland. (Colors are for dry soils unless otherwise noted). Surface rock fragments: 5 percent stones, 15 percent cobbles, and 20 percent gravel.

A—0 to 4 inches; grayish brown (10YR 5/2) very cobbly loam, very dark grayish brown (10YR 3/2) moist; weak thin and medium platy structure that parts to weak fine and medium granular; slightly hard, very friable, sticky and plastic; many very fine and fine roots; many very fine and fine tubular and interstitial pores; 20 percent gravel, 15 percent cobbles, and 3 percent stones; neutral (pH 7.0); clear wavy boundary.

Bt1—4 to 7 inches; grayish brown (10YR 5/2) gravelly clay, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, sticky and plastic; many very fine and fine roots; many very fine and fine interstitial and tubular pores; 20 percent gravel, 10 percent cobbles; neutral (pH 7.0); clear wavy boundary.

Bt2—7 to 13 inches; light brown (7.5YR 6/4) gravelly clay, brown (7.5YR 4/4) moist; strong fine and

medium prismatic structure parting to strong medium and coarse subangular blocky; very hard, friable, very sticky and very plastic; common very fine roots; common very fine tubular pores; many thick clay films on faces of peds and in pores; 20 percent gravel and 3 percent cobbles; neutral (pH 7.0); abrupt wavy boundary.

R—13 inches; hard fractured andesite with thin and moderately thick clay film coatings on faces of rock; some soil material between fractures.

Type location: About 4 miles north-northwest of Wendel; 1.5 miles south of Brubeck Spring on Brubeck Springs Road, about 300 feet east uphill to site; 1,300 feet south and 500 feet east of the northwest corner of Sec. 10, T.29 N., R.16 E.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry in summer through late fall. Aridic moisture regime bordering on xeric.

Soil temperature: 47 to 53 degrees F.

Mollic epipedon: 7 to 20 inches thick, includes all or part of the argillic horizon.

Combined thickness of A and Bt horizons: 12 to 20 inches.

Depth to bedrock: 12 to 20 inches.

Other features: Some pedons have thin E or E/B horizons.

Control section:

Clay content—40 to 60 percent.

Rock fragments—0 to 30 percent, mainly pebbles.

A horizon:

Value—4 to 5 dry, 2 to 3 moist. Some pedons have a thin surface layer with value of 6 dry, but when the upper 7 inches are mixed, value is less than 5.5 dry.

Chroma—2 or 3.

Reaction—Slightly acid to slightly alkaline.

Bt horizon:

Hue—5YR, 7.5YR or 10YR.

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 4.

Texture—Dominantly clay or gravelly clay, commonly with thin subhorizons of clay loam.

Structure—Prismatic, angular blocky, subangular blocky.

Consistence—Slightly hard to very hard, dry; sticky to very sticky, wet.

Reaction—Neutral or slightly alkaline.

Other features—Some pedons have thin silica coats on peds and rock fragments in the lower part of the Bt horizon.

Diaz series

The Diaz series consists of moderately deep, well drained soils on plateaus. These soils formed in residuum and colluvium weathered from basalt or andesite. Slopes range from 2 to 30 percent.

Taxonomic class: Fine, smectitic, mesic Xeric Haplargids

Typical pedon: Diaz very cobbly silt loam, located in map unit 131, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 3 inches; light brownish gray (10YR 6/2) very cobbly silt loam, dark grayish brown (10YR 4/2) moist; moderate medium platy structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine interstitial pores; about 20 percent cobbles and 20 percent gravel; slightly alkaline (pH 7.5); abrupt smooth boundary.

BA1—3 to 7 inches; brown (7.5YR 5/2) silty clay loam, brown (7.5YR 4/2) moist; moderate medium subangular blocky structure parting to strong very fine granular; slightly hard, friable, sticky and plastic; common very fine and fine roots; many very fine interstitial pores; few thin clay films on faces of peds and in pores; slightly alkaline (pH 7.5); clear smooth boundary.

Bt1—7 to 16 inches; pinkish gray (7.5YR 6/2) silty clay, dark brown (7.5YR 4/2) moist; moderate coarse prismatic structure parting to moderate medium subangular blocky; very hard, firm, sticky and plastic; common fine and medium roots; many very fine tubular pores; many thin clay films on faces of peds and in pores; many pressure faces; slightly effervescent with disseminated lime, moderately alkaline (pH 8.0); clear smooth boundary.

Bt2—16 to 21 inches; light brown (7.5YR 6/4) silty clay, dark brown (7.5YR 4/4) moist; weak fine and medium prismatic structure parting to moderate medium and coarse angular blocky; very hard, firm, very sticky and very plastic; common fine and medium roots; many very fine tubular pores; common thin and moderately thick clay films on faces of peds and in pores; slightly effervescent with disseminated lime; moderately alkaline (pH 8.0); clear smooth boundary.

Bt3—21 to 25 inches; brown (7.5YR 5/4) silty clay, dark brown (7.5YR 4/4) moist; weak fine and medium

prismatic structure parting to moderate medium and coarse angular blocky; very hard, firm, very sticky and very plastic; common very fine roots; common very fine tubular pores; common thin and moderately thick clay films on faces of peds and in pores; strongly effervescent with disseminated lime; moderately alkaline (pH 8.2); clear wavy boundary.

R—25 to 32 inches; hard basalt rock with the upper 3 inches slightly weathered and with some horizontal fractures; weak medium and thick platy structure in upper 3 inches, massive below; many discontinuous silica-lime coatings. Thin to moderately thick clay films on horizontal fractures.

Type location: Secret Valley about 1.3 miles going east on east-west dirt road from the intersection of Hwy 395 and Karlo Road, about 330 feet north of dirt road, on the west side of north-south dirt road about 100 feet west to site; 2,000 feet west and 1,350 feet north of the southeast corner of Sec. 36, T.32 N., R.15 E.

Range in Characteristics:

Soil moisture: Usually dry from June 1 to November 15 and moist throughout from December 1 to May 1.

Aridic moisture regime bordering on xeric.

Soil temperature: 41 to 47 degrees F.

Depth to bedrock and thickness of the solum: 20 to 40 inches.

Depth to carbonates: 8 to 17 inches.

Rock fragments: 15 to 35 percent, cobbles and stones.

A horizon:

Value—5 to 6 dry, 3 to 4 moist.

Chroma—2 to 3, dry or moist.

Texture—Very cobbly silt loam, very cobbly loam or very cobbly silty clay loam.

Clay content—18 to 30 percent.

Rock fragments—Mostly cobbles, 35 to 45 percent.

Reaction—Neutral or slightly alkaline.

Structure—Moderate medium platy, moderate medium subangular blocky, or granular.

Bt horizon:

Hue—10YR, 7.5YR.

Value—5 to 6 dry, 3 to 4 moist.

Chroma—2 to 4, dry or moist.

Texture—Clay, clay loam or silty clay.

Clay content—35 to 60 percent.

Rock fragments—Mostly gravel, range from 0 to 15 percent.

Reaction—Slightly or moderately alkaline.

Effervescence—Slightly to strongly effervescent with disseminated lime, or lime is segregated in fine filaments or threads.

Dotta taxadjunct

The Dotta taxadjunct consists of very deep, well and moderately well drained soils on stream terraces. These soils formed in mixed alluvium. Slopes range from 0 to 9 percent.

Taxonomic class: Fine-loamy, mixed, superactive, frigid Pachic Argixerolls

Typical pedon: Dotta gravelly loam, located in map unit 180, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 4 inches; dark brown (10YR 4/3) gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate very fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine interstitial pores; 30 percent gravel; slightly acid (pH 6.5); abrupt smooth boundary.

A2—4 to 10 inches; brown (10YR 5/3) gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate medium granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine, and common medium and coarse roots; many very fine and fine tubular pores; 30 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

BAt—10 to 19 inches; brown (10YR 5/3) gravelly sandy clay loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; many very fine, fine and medium tubular pores; few thin clay films on faces of peds; 34 percent gravel; slightly acid (pH 6.5); clear smooth boundary.

Bt1—19 to 29 inches; brown (10YR 5/3) gravelly sandy clay loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine and fine, and common medium tubular pores; common thin clay films on faces of peds; 30 percent 2 to 5 mm gravel; slightly acid (pH 6.5); clear smooth boundary.

Bt2—29 to 40 inches; yellowish brown (10YR 5/4) gravelly sandy clay loam, dark yellowish brown (10YR 3/4) moist; strong fine subangular blocky structure;

hard, friable, sticky and plastic; few very fine and fine roots; many very fine and few fine tubular pores; many thin clay films on faces of peds and in pores; 25 percent 2 to 5 mm gravel; slightly acid (pH 6.5); abrupt wavy boundary.

2Bt3—40 to 56 inches; brownish yellow (10YR 6/6) gravelly sandy clay loam, dark yellowish brown (10YR 3/6) moist; strong medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine and common fine tubular pores; many moderately thick clay films on faces of peds and in pores; 15 percent 2 to 5 mm gravel; neutral (pH 7.0); clear wavy boundary.

2BCt—56 to 60 inches; brownish yellow (10YR 6/6) gravelly sandy loam, dark yellowish brown (10YR 3/6) moist; massive; hard, very friable, nonsticky and slightly plastic; no roots; many very fine tubular pores; few thin clay films bridging mineral grains; 34 percent 2 to 5 mm gravel; neutral (pH 7.0).

Remarks

The soils mapped as Dotta in this survey are taxadjuncts to the series and classify as; Fine-loamy, mixed, superactive, frigid Pachic Argixerolls. Dotta series is mesic. These differences, however, do not significantly affect use and management.

Type location: About 5.0 miles east of Westwood on Hwy 36; 200 feet north of Hwy 36 at a point 0.5 mile west of Coppervale; 1,200 feet west and 2,600 feet north of the southeast corner of Section 25, T.29 N., R.9 E.

Range in Characteristics:

Soil moisture: Usually dry from mid-July to mid-October moist mid-October until mid-July in some or all parts between depths of 8 to 16 inches. Aridic moisture regime bordering on xeric.

Soil temperature: 49 to 59 degrees F.

Texture: Coarse and very coarse sand make up less than 15 percent of the A and B horizons.

Rock fragments: 35 percent of the volume.

Solum thickness: 27 to 50 inches.

Reaction: Slightly acid or neutral in the upper horizons and neutral to moderately acid in the lower horizons.

A and BA horizons:

Hue—10YR, 7.5YR.

Value—3 through 5 dry, 2 to 3 moist.

Chroma—1 through 3, dry or moist.

Texture—Sandy loam or loam and some have a gravelly modifier.

Bt horizon:

Hue—10YR, 7.5YR, 2.5Y.

Value—3 through 5 dry, 3 to 4 moist.

Chroma—2 through 4, dry or moist

Texture—Loam or sandy clay loam or their gravelly equivalents.

Clay content—18 to 27 percent.

C horizon (when present):

Hue—7.5YR, 10YR or 2.5Y.

Value—4 through 6 dry, 3 through 5 moist.

Chroma—2 through 6 moist.

Texture—Sandy clay loam to coarse sand.

Rock fragments—0 to 25 percent gravel.

Dryvalley series

The Dryvalley series consist of very deep, well drained soils on lake terraces. These soils formed in lacustrine deposits derived from volcanic rocks. Slopes range from 0 to 2 percent.

Taxonomic class: Fine, smectitic, mesic Xerertic Haplargids

Typical pedon: Dryvalley silty clay loam, located in map unit 183, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 2 inches; light brownish gray (10YR 6/2) silty clay loam, dark grayish brown (10YR 4/2) moist; moderate medium and thick platy structure; slightly hard, very friable, sticky and plastic; many very fine roots; many very fine tubular and interstitial pores; slightly alkaline (pH 7.5); abrupt smooth boundary.

A2—2 to 5 inches; light brownish gray (10YR 6/2) silty clay loam, dark grayish brown (10YR 4/2) moist; weak fine granular structure; soft, very friable, sticky and plastic; many very fine, common fine and few medium roots; many very fine tubular and common fine interstitial pores; slightly alkaline (pH 7.5); clear smooth boundary.

Bt1—5 to 10 inches; light brownish gray (10YR 6/2) silty clay, dark grayish brown (10YR 4/2) moist; strong medium and coarse angular blocky structure; hard, friable, very sticky and very plastic; common very fine and fine and few medium and coarse roots; common moderately thick clay films on faces of peds and in pores; slightly alkaline (pH 7.5); clear smooth boundary.

Bt2—10 to 21 inches; pale brown (10YR 6/3) clay, brown (10YR 4/3) moist; moderate medium prismatic structure parting to strong medium and coarse

angular blocky; very hard, firm, very sticky and very plastic; common very fine and few fine and medium tubular pores; many moderately thick clay films on faces of peds and in pores; slightly alkaline (pH 7.5); clear smooth boundary.

BCt1—21 to 34 inches; light yellowish brown (10YR 6/4) clay, dark yellowish brown (10YR 4/4) moist; weak medium prismatic structure parting to moderate medium and coarse angular blocky; very hard, friable, very sticky and very plastic; few very fine, medium and coarse roots; few very fine and fine tubular pores; common moderately thick clay films on faces of peds and in pores; moderately alkaline (pH 8.0); gradual wavy boundary.

BCt2—34 to 43 inches; light yellowish brown (10YR 6/4) silty clay loam, dark yellowish brown (10YR 4/4) moist; moderate medium angular blocky structure; very hard, friable, very sticky and very plastic; few very fine, fine and medium roots; few very fine, fine and medium tubular pores; few moderately thick clay films on faces of peds and in pores; moderately alkaline (pH 8.0); gradual wavy boundary.

C—43 to 60 inches; light yellowish brown (2.5Y 6/4) silty clay loam, olive brown (2.5Y 4/4) moist; massive; hard, friable, sticky and plastic; few very fine, fine and medium roots; few very fine tubular pores; moderately alkaline (pH 8.0).

Type location: About 3 miles west of Termo, CA, 0.5 miles southwest of Termo along Grasshopper Road from US Hwy 395 to dirt road to gravel pit; then about 3.25 miles along dirt road through gravel pit, about 1,300 feet north and 2,100 feet west of the southeast corner of Sec. 20, T.35 N., R.13 E.

Range in Characteristics:

Soil moisture: Usually dry from June 15 to November 15, moist throughout the rest of the time. Aridic moisture regime bordering on xeric.

Soil temperature: 48 to 52 degrees F.

Solum thickness: 21 to 43 inches.

A horizon:

Value—6 dry, 3 to 4 moist.

Chroma—2 to 3, dry or moist.

Texture—Silt loam or silty clay loam.

Reaction—Neutral or slightly alkaline.

Bt horizon:

Value—5 to 6 dry, 3 to 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Clay or silty clay with 40 to 60 percent clay and less than 10 percent sand.

Reaction—Slightly or moderately alkaline.

BCt horizon:

Hue—10YR, 2.5Y.

Value—6 dry, 4 to 5 moist.

Chroma—2 through 4, dry or moist.

Reaction—Slightly or moderately alkaline.

C horizon:

Hue—2.5Y, 5Y.

Value—6 through 8 dry, 4 moist

Chroma—2 through 4, dry or moist.

Duco series

The Duco series consists of shallow, well drained soils on ridges of mountains. These soils formed in colluvium and residuum weathered from volcanic or metavolcanic rock. Slopes range from 30 to 50 percent.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Lithic Argixerolls

Typical pedon: Duco very gravelly loam, located in map unit 256, rangeland. (Colors are for dry soils unless otherwise noted). Surface is covered with 3 percent stones.

A1—0 to 5 inches; brown (10YR 5/3) very gravelly loam, very dark grayish brown (10YR 3/2) moist; strong very fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; many very fine tubular pores; 55 percent 2 to 5 mm gravel; neutral (pH 7.2); clear smooth boundary.

A2—5 to 10 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; strong fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; many very fine tubular pores; 40 percent 2 to 5 mm gravel; neutral (pH 7.2); clear smooth boundary.

Bt1—10 to 16 inches; brown (10YR 5/3) very gravelly clay loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; hard, friable, slightly sticky and plastic; common very fine roots; many very fine tubular pores; many thin clay films on faces of peds; 40 percent gravel; neutral (pH 7.2); clear smooth boundary.

Bt2—16 to 19 inches; variegated light brownish gray (10YR 6/2) and light yellowish brown (10YR 6/4) very gravelly clay loam, grayish brown (10YR 5/2) and dark yellowish brown (10YR 4/4) moist; moderate

medium subangular blocky structure; hard, friable, sticky and plastic; few very fine roots; many very fine tubular pores; common moderately thick clay films on faces of peds; 40 percent gravel; neutral (pH 7.2); abrupt wavy boundary.

R—19 to 23 inches; hard fractured metavolcanic rock with clay films and roots in fractures.

Type location: About 1 mile east and 1,600 ft. north of southwest corner Sec 31, T.24 N., R.18 E.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, dry in summer through late fall. Aridic moisture regime that borders on xeric.

Soil temperature: 47 to 54 degrees F.

Mollic epipedon thickness: 7 to 20 inches, commonly includes the Bt1 horizon.

Depth to base of argillic horizon: 10 to 20 inches.

Depth to bedrock: 10 to 20 inches to a lithic contact.

Control section:

Clay content—27 to 35 percent.

Rock fragments—35 to 80 percent total with 20 to 70 percent pebbles, 0 to 20 percent cobbles, and 0 to 40 percent stones. Stones are usually in the Bt2 horizon. Lithology of fragments are volcanic rocks such as andesite or rhyolite.

Reaction—Slightly acid to slightly alkaline.

Other features—Some pedons have only one Bt horizon constituting the argillic horizon.

A horizons:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 through 3, dry or moist.

Organic matter content—1 to 3 percent.

Bt1 horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Fine-earth texture—Loam, sandy clay loam, or clay loam.

Rock fragments—20 to 80 percent, mainly pebbles.

Some pedons are dominated by stones.

Structure—Subangular blocky or angular blocky.

Consistence—Slightly hard or hard, slightly sticky or moderately sticky, slightly plastic or moderately plastic.

Organic matter content—1 or 2 percent.

Bt2 horizon:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, 2 through 4 moist.

Chroma—2 through 4, dry or moist.

Structure—Moderate or strong, fine or medium, subangular or angular blocky.

Eaglelake series

The Eaglelake series consists of deep, well drained soils on plateaus and mountains. These soils formed in residuum and colluvium weathered from basalt or andesite. Slopes range from 2 to 50 percent.

Taxonomic class: Fine-loamy, isotic, frigid Vitrandic Haploxeralfs

Typical pedon: Eaglelake very gravelly loam, located in map unit 184, forestland. (Colors are for dry soils unless otherwise noted). Surface is partially covered with needles, twigs, and sticks.

A1—0 to 4 inches; reddish brown (5YR 5/3) very gravelly loam, dark reddish brown (5YR 3/3) moist; weak very fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and common fine roots; many very fine interstitial pores; 45 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

A2—4 to 8 inches; reddish brown (5YR 5/3) very gravelly loam, dark reddish brown (5YR 3/4) moist; weak very fine and fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine and common medium roots; many very fine interstitial pores; 35 percent gravel; slightly acid (pH 6.3); clear wavy boundary.

BAt—8 to 12 inches; reddish brown (5YR 5/4) loam, dark reddish brown (2.5YR 3/4) moist; moderate very fine and fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and common fine and medium roots; many very fine tubular and interstitial pores; few thin clay films as bridges between mineral grains; 10 percent gravel; moderately acid (pH 6.0); clear wavy boundary.

Bt—12 to 17 inches; reddish brown (2.5YR 5/4) loam, reddish brown (2.5YR 4/4) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine common fine and few medium roots; common thin clay films on faces of peds and in pores; 10 percent gravel; moderately acid (pH 6.0); clear wavy boundary.

2Bt1—17 to 26 inches; reddish brown (2.5YR 5/4) gravelly clay loam, reddish brown (2.5YR 4/4) moist; strong medium and coarse subangular blocky

structure; very hard, very friable, sticky and plastic; common very fine and fine and few medium roots; many very fine tubular pores; common thin and moderately thick clay films on faces of peds and in pores; 5 percent cobbles, 25 percent gravel; moderately acid (pH 5.8); clear wavy boundary.

2Bt2—26 to 55 inches; reddish brown (2.5YR 5/4) gravelly clay loam, dark red (2.5YR 3/6) moist; moderate coarse subangular blocky structure; very hard, friable, sticky and plastic; common very fine roots; many very fine tubular and interstitial pores; common thin and moderately thick clay films on faces of peds and in pores; 25 percent gravel; moderately acid (pH 5.8); clear wavy boundary.

3Crt—55 to 77 inches; pinkish gray (5YR 7/2) and yellowish red (5YR 5/8) soft weathered andesite, reddish brown (5YR 5/4) and yellowish red (5YR 4/6) moist; massive; crushes easily; retains mineral structure; digs with spade or auger; very fine roots in some pockets; few clay films weathering in place.

Type location: About 16 miles north of Susanville along Hwy 44 to intersection of McCoy Road and Bridge Creek Road; then east on Bridge Creek Road 1.6 miles to another main intersection; then south 1.2 miles to fork and continue 0.5 mile to Road 3.15; then northwest 2.5 miles on Road 3.15 to Road 3.10; then north to site and 150 feet south of next intersection; 700 feet east and 2,600 feet north of the southwest corner of Sec. 4, T.30 N., R.10 E.

Range in Characteristics:

Soil moisture: Usually dry from July 15 to November 1 and moist in some or all parts the rest of the time.

Xeric moisture regime.

Soil temperature: 44 to 46 degrees F.

Thickness of solum and depth to bedrock: 40 to 60 inches.

Base saturation by sum of bases: 50 to 75 percent.

A horizon:

Hue—7.5YR, 5YR, 2.5YR.

Chroma—3 through 6, dry or moist.

Rock fragments—Mostly gravel, 35 to 45 percent.

BA_t and B_t horizons:

Hue—2.5YR, 5YR, 7.5YR.

Value—5 dry, 3 to 4 moist.

Clay content—20 to 25 percent.

Gravel content—5 to 15 percent.

2B_t horizon:

Hue—5YR, 2.5YR.

Value—4 to 6 dry, 3 to 4 moist.

Chroma—4 and 6, dry or moist

Clay content—27 to 35 percent.

Gravel content—15 to 30 percent.

Easte series

The Easte series consists of deep, well drained soils on mountains. These soils formed in residuum and colluvium weathered from basalt, andesite and volcanic ash. Slopes range from 5 to 50 percent.

Taxonomic class: Loamy-skeletal, isotic, frigid Vitrandic Haploxerepts

Typical pedon: Easte very gravelly sandy loam located in map unit 190, forestland. (Colors are for dry soils unless otherwise noted). The surface is partly covered by undecomposed litter of twigs and needles.

A1—0 to 5 inches; brown (10YR 4/3) very gravelly sandy loam, very dark brown (10YR 2/2) moist; weak very fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine interstitial pores; 3 percent stones; 10 percent cobbles and 35 percent gravel; slightly acid (pH 6.3); clear wavy boundary.

A2—5 to 13 inches; brown (10YR 4/3) very gravelly sandy loam, dark brown (7.5YR 3/2) moist; weak very fine and fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; many very fine interstitial pores; 5 percent stones, 5 percent cobbles, 40 percent gravel; moderately acid (pH 6.0); clear wavy boundary.

Bw1—13 to 24 inches; brown (10YR 5/3) extremely gravelly loam, dark brown (10YR 3/3) moist, weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine, medium and common coarse roots; many very fine interstitial and common very fine tubular pores; 5 percent cobbles, 60 percent gravel; strongly acid (pH 5.5); clear wavy boundary.

Bw2—24 to 42 inches; brown (10YR 5/3) extremely gravelly loam, dark brown (10YR 3/3) moist; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, common fine and medium and few coarse roots; many very fine and fine interstitial and tubular pores; 5 percent cobbles, 70 percent gravel; strongly acid (pH 5.1); clear irregular boundary.

Cr—42 to 62 inches; highly fractured andesite; cuts with knife, digs with spade; does not slake in water; some pockets with vertical 5 to 15 mm roots with soil around

roots; fractured into about 2 to 5 inch size; fewer roots and larger rock fragments with depth; 90 percent or more rock.

Type location: About 7 miles north along Eagle Lake Road (County Road A1) from its intersection with Highway 36 and about 0.5 mile past the summit of Eagle Lake Road to the first dirt cross road; then 0.1 mile west along dirt road to site on south side of road; about 300 feet east and 3,000 feet south of the northeast corner of Sec. 32, T.31 N., R.11 E.

Range in Characteristics:

Soil moisture: Usually dry from July 15 to November 1 and is moist in some or all parts the rest of the time. Xeric moisture regime.

Soil temperature: 42 to 46 degrees F.

Thickness of the umbric epipedon and depth to bedrock: 40 to 60 inches.

Control section:

Rock fragments—60 to 75 percent.

Clay content—8 to 18 percent.

Base saturation—35 to 65 percent.

A horizon:

Hue—10YR, 7.5YR.

Value—3 through 5 dry, 2 to 3 moist.

Chroma—2 through 4, dry or moist.

Texture—Very gravelly sandy loam, gravelly coarse sandy loam or gravelly loam modified by 2 to 15 percent stones and cobbles and 15 to 35 percent gravel.

Bw horizon:

Hue—10YR, 7.5YR.

Value—4 to 5 dry, 3 moist.

Chroma—2 through 4, dry or moist

Texture—Very gravelly or extremely gravelly loam.

Clay content—10 to 18 percent.

Rock fragments—40 to 70 percent, mostly gravel.

Reaction—Slightly acid through strongly acid, decreasing with depth.

Epote series

The Epote series consists of very deep, well drained soils on lake terraces. These soils formed in mixed lacustrine sediments. Slopes range from 0 to 2 percent.

Taxonomic class: Fine-silty, mixed, superactive, mesic Typic Natrargids

Typical pedon: Epote very fine sandy loam, located in map unit 192, rangeland. (Colors are for dry soils

unless otherwise noted). The soil surface is covered with polygonal cracks 6 inches by 8 inches with many lichens growing on it.

An—0 to 6 inches; light gray (2.5Y 7/2) very fine sandy loam, dark grayish brown (2.5Y 4/2) moist; moderate fine and medium platy structure; hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine interstitial pores; strongly effervescent, with disseminated lime; sodium adsorption ratio is 18; electrical conductivity is 4 mmhos moderately alkaline (pH 8.0); clear wavy boundary.

En—6 to 13 inches; very pale brown (10YR 7/3) loam, yellowish brown (10YR 5/4) moist; weak medium prismatic structure that parts to moderate very fine subangular blocky; slightly hard, very friable, slightly sticky and plastic; common very fine and few fine roots; common very fine tubular pores; violently effervescent with disseminated lime; sodium adsorption ratio is 13; electrical conductivity is 3 mmhos; strongly alkaline (pH 8.5); clear wavy boundary.

Btkn—13 to 21 inches; light gray (2.5Y 7/2) clay loam, yellowish brown (10YR 5/4) moist; moderate medium angular blocky structure; slightly hard, very friable, sticky and plastic; common very fine and few fine and medium roots; few very fine tubular pores; common thin clay films on faces of peds; common fine soft masses of lime; violently effervescent with disseminated lime; sodium adsorption ratio is 44; electrical conductivity is 5 mmhos; strongly alkaline (pH 8.5); abrupt wavy boundary.

Btkn—21 to 26 inches; light gray (2.5Y 7/2) clay loam, brown (10YR 5/3) moist; moderate medium prismatic structure parting to moderate fine angular blocky; hard, friable, sticky and plastic; few fine and medium roots; common very fine tubular pores; many thin clay films on faces of peds and few moderately thick clay films in pores; common fine and medium soft masses of lime; violently effervescent; sodium adsorption ratio is 88; electrical conductivity is 10 mmhos; strongly alkaline (pH 8.5); clear wavy boundary.

BCnz—26 to 35 inches; light gray (2.5Y 7/2) clay loam, olive (5Y 5/3) moist; many fine distinct brownish yellow (10YR 6/6) relict mottles, dark yellowish brown (10YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and plastic; few very fine roots; few very fine tubular pores; violently effervescent with disseminated lime; sodium adsorption ratio is 61; electrical conductivity is 25 mmhos; strongly alkaline (pH 8.5); clear wavy boundary.

Cynz1—35 to 42 inches; light gray (2.5Y 7/2) loam, olive (5Y 5/3) moist; massive; slightly hard, very friable,

slightly sticky, plastic; few very fine roots; common very fine tubular pores; violently effervescent with disseminated lime; few fine soft filaments of gypsum; sodium adsorption ratio is 66; electrical conductivity is 29 mmhos; strongly alkaline (pH 8.5); abrupt smooth boundary.

Cynz2—42 to 48 inches; light gray (2.5Y 7/2) clay loam, olive brown (2.5Y 4/3) moist; massive; slightly hard, very friable, slightly sticky and plastic; few very fine roots; common very fine tubular pores; common 0.5 mm ostracod shells; violently effervescent with disseminated lime; few fine soft filaments of gypsum; sodium adsorption ratio is 73; electrical conductivity is 32 mmhos; strongly alkaline (pH 8.5); abrupt smooth boundary.

2Cnz—48 to 63 inches; white (5Y 8/2) stratified fine sand and very fine sand, olive (5Y 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; many 0.5 mm ostracod shells; slightly effervescent with disseminated lime; sodium adsorption ratio is 38; electrical conductivity is 16 mmhos; strongly alkaline (pH 8.5).

Type location: About 2.3 miles east of the east boundary of the Sierra Army Depot; about 1.8 miles west of the California-Nevada state line; about 0.5 mile west of Calneva Lake; 0.5 mile southeast along trail from its intersection with east-west trail; about 2,000 feet east and 2,100 feet south of the apparent northwest corner of Sec. 26, T.7 N., R.17 E.

Range in Characteristics:

Soil moisture: Moist in all parts of the moisture control section from December 15 to March 15 and dry in all parts from April 15 to November 15 (215 days). Aridic moisture regime.

Soil temperature: 53 to 56 degrees F.

Ochric epipedon thickness: 5 to 13 inches.

Depth to base of natric horizon: 13 to 27 inches.

Particle-size control section:

Clay content—27 to 35 percent.

Texture—Fine sand or coarser content: 10 to 15 percent sand coarser than very fine sand.

A and E horizons:

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 4 or 5 moist.

Chroma—2 or 3 dry, 2 through 4 moist.

Reaction—Moderately alkaline or strongly alkaline.

Salinity (EC)—2 to 8 mmhos/cm.

Sodicity (SAR)—8 to 20.

Btn horizons:

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 4 or 5 moist.

Chroma—2 through 4 dry, 3 or 4 moist.

Texture—Clay loam or silty clay loam.

Salinity (EC)—4 to 16 mmhos/cm.

Sodicity (SAR)—40 to 120.

BC, Cy, and 2C horizons:

Hue—2.5Y or 5Y.

Value—7 or 8 dry, 4 through 6 moist.

Chroma—2 or 3, dry or moist.

Texture—Stratified sand, very fine sand, fine sandy loam, and clay loam.

Effervescence—Slightly effervescent to violently effervescent.

Fiddler series

The Fiddler series consists of moderately deep, well drained soils on mountains and plateaus. These soils formed in residuum and colluvium from volcanic rocks. Slopes range from 5 to 50 percent.

Taxonomic class: Clayey-skeletal, smectitic, mesic, Typic Argixerolls

Typical pedon: Fiddler very stony loam, located in map unit 197, forestland. (Colors are for dry soils unless otherwise noted).

A—0 to 4 inches; dark grayish brown (10YR 4/2) very stony loam, very dark brown (10YR 2/2) moist; weak very thin and thin platy structure; slightly hard, very friable, sticky and plastic; many very fine roots; many very fine interstitial pores; 15 percent stones, 20 percent cobbles and 20 percent gravel; neutral (pH 7.0); clear wavy boundary.

BAt—4 to 8 inches; brown (10YR 4/3) very stony loam, very dark grayish brown (10YR 3/2) moist; weak fine and medium subangular blocky structure; slightly hard, very friable, sticky and plastic; common very fine and few fine and medium roots; common very fine tubular and many very fine interstitial pores; few thin clay films on faces of peds and in pores; 25 percent stones, 20 percent cobbles and 10 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt1—8 to 14 inches; brown (10YR 5/3) very cobbly clay loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, sticky and very plastic; common very fine and few fine and medium roots; common very fine tubular and interstitial pores; common thin

and moderately thick clay films on faces of peds and in pores; 15 percent stones, 25 percent cobbles and 15 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt2—14 to 23 inches; yellowish brown (10YR 5/4) very cobbly clay, dark yellowish brown (10YR 3/4) moist; moderate fine, medium and coarse angular blocky structure; hard, friable, very sticky and very plastic; common very fine and fine and few medium and coarse roots; common very fine tubular and interstitial pores; common thin and moderately thick clay films on faces of peds and in pores; 20 percent stones, 20 percent cobbles and 15 percent gravel; neutral (pH 7.0); abrupt wavy boundary.

R—23 to 28 inches; hard, massive basalt with some weathering in upper 2 inches that is soft enough to cut with knife; few fractures in upper 3 inches; few fine roots in cracks; few thin and moderately thick clay films on faces of cracks.

Type location: About 1.5 miles south of Ravendale along US Hwy 395 to Horse Lake Road, then 10 miles south along Horse Lake Road to trail, then 2 miles north on trail and 100 feet east of trail; 2,400 feet west and 2,300 feet south of the northeast corner of Sec. 30, T.33 N., R.14 E.

Range in Characteristics:

Soil moisture: Usually dry from early July to early November and moist in some part greater than half of the time. Xeric moisture regime.

Soil temperature: 47 to 56 degrees F.

Solum thickness and depth to a lithic contact: 20 to 40 inches.

Mollic epipedon: 8 to 20 inches thick and includes the upper part of the argillic horizon in some pedons.

Reaction: Slightly acid or neutral.

A horizon:

Hue—10YR, 7.5YR.

Value—3 through 5 dry, 2 to 3 moist.

Chroma—2 to 3, dry or moist.

Clay content—18 to 27 percent.

Rock fragments—15 to 35 percent.

Bt horizon:

Hue—10YR, 7.5YR.

Value—4 to 5 dry, 3 to 4 moist.

Chroma—2 through 6, dry or moist.

Texture—Very stony clay loam, very stony clay, very cobbly clay or very cobbly clay loam.

Clay content—35 to 50 percent clay.

Rock fragments—35 to 55 percent.

Fivesprings series

The Fivesprings series consists of moderately deep, well drained soils on mountain back slopes. These soils formed in residuum and colluvium weathered from volcanic rocks. Slopes range from 5 to 50 percent.

Taxonomic class: Clayey-skeletal, smectitic, mesic Aridic Argixerolls

Typical pedon: Fivesprings very stony loam, located in map unit 201, rangeland. (Colors are for dry soils unless otherwise noted). Surface area is covered by 20 percent stones, 25 percent cobbles, and 15 percent gravel.

A—0 to 3 inches; grayish brown (10YR 5/2) very stony loam, very dark grayish brown (10YR 3/2) moist; weak very thin and thin platy structure; slightly hard, very friable, sticky and plastic; many very fine and common fine roots; common very fine interstitial pores; 15 percent stones, 15 percent cobbles and 20 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt1—3 to 8 inches; dark grayish brown (10YR 4/2) very gravelly clay loam, very dark grayish brown (10YR 3/2) moist; moderate very fine and fine angular blocky structure; hard, very friable, very sticky and very plastic; common very fine and fine roots; common very fine tubular pores; many thin clay films on faces of peds and in pores; 5 percent cobbles, 45 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt2—8 to 15 inches; brown (10YR 5/3) very gravelly clay, dark brown (10YR 3/3) moist; moderate fine and medium angular blocky structure; hard, friable, very sticky and very plastic; common very fine tubular pores; many thin and moderately thick clay films on faces of peds and in pores; 5 percent cobbles; 55 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt3—15 to 23 inches; brown (10YR 5/3) very gravelly clay, dark brown (10YR 4/3) moist; moderate medium and coarse angular blocky structure; very hard, friable, very sticky and very plastic; few very fine and fine roots; common very fine tubular pores; many thin and moderately thick clay films on faces of peds and in pores; 5 percent cobbles; 50 percent gravel; slightly alkaline (pH 7.5); abrupt wavy boundary.

R—23 to 33 inches; hard massive basalt. Few fractures with some soil and lime coatings.

Type location: About 7 miles east of Secret Valley, 700 feet west and 400 feet south of the northeast corner of Sec. 23, T.31 N., R.16 E.

Range in Characteristics:

Soil moisture: Usually dry from July 1 to November 15 and moist from December 1 to April 15. Aridic moisture regime bordering on xeric.

Soil temperature: 47 to 52 degrees F.

Solum thickness and depth to a lithic contact: 20 to 40 inches.

Mollic epipedon: 8 to 18 inches thick and includes part of the Bt horizon.

Rock fragments: The surface is covered with 10 to 25 percent stones, 20 to 25 percent cobbles, and 15 to 25 percent gravel.

A horizon:

Value—4 to 5 dry, 2 to 3 moist.

Chroma—2 to 3, dry or moist.

Rock fragments—Mostly cobbles and gravel, 35 to 55 percent.

Reaction—Slightly acid or neutral.

Bt horizon:

Hue—10YR, 7.5YR.

Value—4 through 6 dry, 2 through 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Clay or clay loam.

Rock fragments—35 to 60 percent, mostly gravel.

Clay content—35 to 50 percent clay.

Reaction—Neutral or slightly alkaline.

Fluvents

Fluvents consist of deep, moderately well through poorly drained soils on flood plains. These soils formed in stratified alluvium weathered from granitic and volcanic rock sources. Slopes range from 0 to 1 percent.

Taxonomic class: Fluvents

Representative pedon: Fluvents very fine sandy loam, located in map unit 203, pasture. (Colors are for dry soils unless otherwise noted).

C—0 to 4 inches; light gray (2.5Y 7/2) stratified very fine sandy loam, grayish brown (2.5Y 5/2) moist; moderate medium platy structure; slightly hard, nonsticky and nonplastic; few very fine roots, many very fine interstitial pores; moderately alkaline (pH 8.0); clear wavy boundary.

Ab—4 to 13 inches thick; light brownish gray (2.5Y 6/2) stratified very fine sandy loam, dark grayish brown (2.5Y 4/2) moist; strong medium platy structure; slightly hard, very friable, nonsticky and nonplastic;

few very fine roots; many very fine interstitial pores; slightly alkaline (pH 7.5); abrupt smooth boundary.

C1—13 to 22 inches; light gray (5Y 7/2) stratified coarse sand, olive (5Y 5/3) moist; single grain; loose, nonsticky and nonplastic; few very fine, fine and medium roots; many very fine interstitial pores; slightly alkaline (pH 7.5); abrupt smooth boundary.

C2—22 to 28 inches; pale yellow (5Y 7/3) stratified very fine sandy loam, olive (5Y 5/3) moist; common fine prominent light yellowish brown (2.5Y 6/4) mottles, olive brown (2.5Y 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine, common fine and medium roots; common very fine interstitial pores; slightly effervescent with disseminated lime; moderately alkaline (pH 8.0); abrupt smooth boundary.

C3—28 to 40 inches; light gray (2.5Y 7/2) stratified coarse sandy loam, olive brown (2.5Y 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine, common fine and medium roots; many very fine interstitial pores; slightly effervescent with disseminated lime; moderately alkaline (pH 8.0); abrupt smooth boundary.

Abg—40 to 60 inches; gray (5Y 6/1) stratified very fine sandy loam, coarse sand and sandy loam, dark gray (5Y 4/1) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine, few fine, medium and coarse roots; many very fine interstitial pores; includes black strata high in organic carbon, 0.5 inch thick; slightly effervescent with disseminated lime; moderately alkaline (pH 8.0).

Type location: About 3.7 miles northeast of Doyle; 3,200 feet east of US Hwy 395 where it crosses Long Valley Creek just south of County Road A26; 1,800 feet north and 400 feet west of the southeast corner of Sec. 26, T.26 N., R.16 E.

Range in Characteristics:

Soil moisture: Aridic moisture regime bordering on xeric.

Depth to redoximorphic concentrations: 22 to 69 inches.

Depth to carbonates: 22 to 37 inches.

Reaction: Slightly to moderately alkaline throughout.

Control section:

Clay content—2 to 10 percent clay.

C horizon:

Hue—2.5Y, 5Y.

Value—6 to 7 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Stratified coarse sand to very fine sandy loam.

Ab horizon:

Hue—2.5Y, 5Y.

Value—3 through 6 dry, 3 to 4 moist.

Chroma—0 through 2, dry or moist.

Fordney series

The Fordney series consists of very deep, excessively drained or moderately well drained soils on stream terraces. These soils formed in alluvial lacustrine sediments. Slopes range from 0 to 5 percent.

Taxonomic class: Mixed, mesic Torripsammentic Haploxerolls

Typical pedon: Fordney loamy fine sand, located in map unit 205, cropland. (Colors are for dry soils unless otherwise noted).

Ap1—0 to 2 inches; brown (10YR 5/3) loamy fine sand, dark yellowish brown (10YR 3/4) moist; massive; soft, very friable, nonsticky and slightly plastic; common medium roots; many very fine interstitial pores; 10 percent fine gravel; neutral (pH 7.2); abrupt smooth boundary.

Ap2—2 to 10 inches; dark grayish brown (10YR 4/2) loamy fine sand, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and slightly plastic; no roots; many very fine interstitial pores; 10 percent fine gravel; neutral (pH 7.0); clear smooth boundary.

A—10 to 17 inches; dark brown (10YR 4/3) loamy fine sand, very dark grayish brown (10YR 3/2) moist; massive; soft, very friable, nonsticky and slightly plastic; no roots; many very fine interstitial pores; 10 percent fine gravel; neutral (pH 7.0); gradual smooth boundary.

C1—17 to 22 inches; dark yellowish brown (10YR 4/4) loamy fine sand, dark yellowish brown (10YR 3/4) moist; massive; soft, very friable, nonsticky and slightly plastic; no roots; many very fine interstitial pores; 10 percent fine gravel; neutral (pH 7.0); gradual smooth boundary.

C2—22 to 32 inches; yellowish brown (10YR 5/4) loamy fine sand, dark yellowish brown (10YR 3/4) moist; massive; soft, very friable, nonsticky and slightly plastic; no roots; many very fine interstitial pores; 14 percent gravel; neutral (pH 7.0); gradual smooth boundary.

C3—32 to 52 inches; yellowish brown (10YR 5/4) loamy fine sand, dark yellowish brown (10YR 3/4) moist; massive; soft, very friable, nonsticky and slightly plastic; no roots; many fine interstitial pores; neutral (pH 7.0); gradual smooth boundary.

C4—52 to 62 inches; light yellowish brown (2.5Y 6/4) loamy fine sand, olive brown (2.5Y 4/4) moist; massive; soft, very friable, nonsticky and slightly plastic; no roots; many very fine interstitial pores; slightly alkaline (pH 7.5).

Type location: About 10 feet south and 10 feet east of the northwest windbreak corner; 100 feet south and 100 feet east of the northwest corner of the southwest 1/4, southwest 1/4 of Section 12, T.29 N., R.13 E.

Range in Characteristics:

Soil moisture: Usually dry about 80 to 120 days following the summer solstice, moist the rest of the time.

Soil temperature: 48 to 53 degrees F.

Reaction: Neutral through moderately alkaline.

Depth to bedrock: More than 60 inches.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 or 2 dry.

C horizon:

Hue—10YR or 2.5Y.

Value—4 through 7 dry, 3 through 5 moist.

Chroma—2 or 3 moist and dry.

Texture—Loamy sand, loamy fine sand, or sand.

Rock fragments—0 to 15 percent gravel of 2 to 5 mm diameter.

Forgay taxadjunct

The Forgay taxadjunct consists of very deep, somewhat excessively drained or moderately well drained soils on alluvial fans. These soils formed in alluvium weathered from mixed rock sources. Slopes range from 0 to 2 percent.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic, Humic Dystroxerepts

Typical pedon: Forgay extremely gravelly sandy loam, located in map unit 208, forestland. (Colors are for dry soils unless otherwise noted).

A1—1 to 8 inches; dark grayish brown (10YR 4/2) extremely gravelly sandy loam, very dark brown (10YR 2/2) moist; weak very fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine interstitial pores; 10 percent cobbles; 55 percent gravel; slightly acid (pH 6.3); clear wavy boundary.

A2—8 to 11 inches; grayish brown (10YR 5/2) extremely gravelly sandy loam, very dark brown (10YR 2/2) moist; weak very fine and fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; many very fine interstitial pores; 10 percent cobbles; 55 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

Bw—11 to 26 inches; light yellowish brown (10YR 6/4) extremely gravelly coarse sandy loam, brown (10YR 4/3) moist; weak very fine and fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common fine and few medium and coarse roots; many very fine interstitial pores; 10 percent cobbles; 55 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

BC—26 to 40 inches; light yellowish brown (10YR 6/4) extremely gravelly coarse sandy loam, dark yellowish brown (10YR 4/4) moist; weak very fine granular structure; soft, very friable, nonsticky and nonplastic; common fine and medium roots; many very fine interstitial pores; 10 percent cobbles; 60 percent gravel; neutral (pH 6.6); clear wavy boundary.

C—40 to 60 inches; variegated colored stratified extremely gravelly loamy coarse sand to gravelly sandy loam; massive; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine and fine interstitial pores; 10 percent cobbles; 60 percent gravel; neutral (pH 6.6).

Type location: Chester, CA; at the northeast corner of the intersection of Hwys 89 and 36, between Hwy 36 and Collins Pine logging road, and 250 feet northeast along phone line; about 1,700 feet east and 600 feet north of the south 1/4 corner of Section 13, T.28 N., R.6 E.

Range in Characteristics:

Soil moisture: Usually dry from about July 15 to September 15, moist in all parts from about December 1 to May 15. Xeric moisture regime.

Soil temperature: 48 to 52 degrees F.

Summer temperature: 63 to 65 degrees F.

Reaction: Slightly acid or neutral throughout.

Texture: Coarse sandy loam or sandy loam.

Rock fragments: 40 to 80 percent gravel and cobbles.

A horizon:

Value—4 through 6 dry, 3 to 4 moist.

Chroma—2 through 4 dry, 3 to 4 moist.

Texture—Very gravelly sandy loam, extremely gravelly coarse sandy loam, or extremely gravelly loamy coarse sand.

Rock fragments—Mostly gravel, 35 to 75 percent.

Bw horizon:

Value—5 to 6 dry, 3 to 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Very gravelly sandy loam, extremely gravelly sandy loam, very gravelly coarse sandy loam, extremely gravelly loamy coarse sand or extremely gravelly coarse sandy loam.

Rock fragments—40 to 80 percent, mostly gravel.

Remarks

The soils mapped as Forgay in this survey are a taxadjunct to the series. They classify as Loamy-skeletal, mixed, superactive, mesic Humic Dystroxerepts. They have an A horizon with darker colors and more organic carbon than is typical for the series. These differences, however, do not significantly affect use and management.

Fortsage series

The Fortsage series consists of very deep, moderately well drained soils on flood plains. These soils formed in mixed alluvium. Slopes range from 0 to 2 percent.

Taxonomic class: Coarse-loamy, mixed, superactive, nonacid, mesic Oxyaquic Torrifluvents

Typical pedon: Fortsage silt loam, located in map unit 210, rangeland. (Colors are for dry soils unless otherwise noted).

C1—0 to 2 inches; brown (10YR 5/3) silt loam, dark brown (10YR 3/3) moist; platy rock structure; soft, very friable, slightly sticky and slightly plastic; common medium roots; many very fine interstitial pores; few very thin strata; slightly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

C2—2 to 20 inches; pale brown (10YR 6/3) and light gray (10YR 7/2) highly stratified sand, silt loam, very fine sandy loam, and fine sandy loam, dark brown (10YR 3/3) and dark grayish brown (10YR 4/2) moist; the loamy strata are massive and slightly hard, very friable, and slightly sticky and slightly plastic, the sandy strata are single grain, loose, nonsticky and nonplastic; common very fine, few fine, and few medium roots; many very fine interstitial pores; nine individual strata, 1 to 4 inches thick; noneffervescent in matrix and slightly effervescent in finer textured strata; slightly alkaline (pH 7.5); abrupt smooth boundary.

C3—20 to 32 inches; pale brown (10YR 6/3) silt loam, dark brown (10YR 3/3) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine, few fine, and few medium roots; many very fine tubular pores; fine stratification; few fine distinct dark yellowish brown (10YR 4/6) moist masses of iron accumulation; moderately alkaline (pH 8.0); clear smooth boundary. (3 to 20 inches thick)

Bt_{nb}—32 to 39 inches; pale brown (10YR 6/3) sandy clay loam, dark grayish brown (10YR 4/2) moist; moderate medium prismatic structure; hard, friable, slightly sticky and slightly plastic; many very fine roots on faces of peds; many very fine tubular pores; many distinct clay films and organic coats on faces of peds; slightly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

B_{kb}—39 to 60 inches; light brownish gray (2.5Y 6/2) stratified fine sandy loam and silt loam, dark grayish brown (2.5Y 4/2) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine interstitial pores; secondary carbonates segregated in common fine threads; slightly effervescent, few fine distinct dark yellowish brown (10YR 4/4) moist masses of iron accumulation; moderately alkaline (pH 8.2).

Type location: Long Valley about 0.6 miles southwest of the fence corner that is the southeast corner of the Lincoln Ranch; 4,000 feet south and 50 feet west of the northeast corner of section 21, T.25 N., R.17 E.

Range in Characteristics:

Soil moisture: Usually dry in all parts from June 1 to November 15 (168 days). It is moist throughout from December 1 to April 1. Aridic moisture regime that borders on xeric.

Soil temperature: 50 to 53 degrees F.

Depth to redoximorphic features: 20 to 36 inches.

Control section:

Clay content—8 to 15 percent.

Salinity (EC)—0 to 2 mmhos/cm.

C1 horizon:

Value—5 through 7 dry, 3 through 5 moist; When the upper 7 inches of soil are mixed, the dry value is 6 or 7.

Chroma—2 or 3 dry.

Texture—Silt loam or fine sandy loam.

Clay content—5 to 15 percent.

Reaction—Neutral to moderately alkaline.

Other features—This horizon has rock structure as very thin strata and does not qualify as an ochric epipedon.

C2 and C3 horizons:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 or 3 dry, 2 through 4 moist.

Texture—Stratified fine sandy loam to silt loam.

Clay content—8 to 15 percent.

Reaction—Slightly alkaline or moderately alkaline.

Effervescence—Noneffervescent or slightly effervescent.

Bt_{nb} horizon:

Texture—Sandy clay loam or loam.

Clay content—18 to 25 percent.

Reaction—Slightly alkaline or moderately alkaline.

B_{kb} horizon:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 or 3 dry, 2 through 4 moist.

Texture—Stratified fine sandy loam to silt loam.

Clay content—8 to 15 percent.

Reaction—Slightly alkaline or moderately alkaline.

Fraval series

The Fraval series consists of moderately deep, well drained soils on mountain back slopes. These soils formed in residuum weathered from andesite and tuff. Slopes are 5 to 50 percent.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Ultic Argixerolls.

Typical pedon: Fraval very gravelly loam, located in map unit 211, forestland. (Colors are for dry soils unless otherwise noted).

A1—0 to 6 inches; grayish brown (10YR 5/2) very gravelly loam, very dark brown (10YR 2/2) moist; moderate very fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine interstitial pores; 40 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

A2—6 to 14 inches; grayish brown (10YR 5/2) very gravelly loam, very dark brown (10YR 2/2) moist; moderate very fine and fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine and common fine roots; common very fine interstitial and tubular pores; 35 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

Bt1—14 to 19 inches; brown (10YR 5/3) very gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, sticky and plastic; many very fine, common fine and few medium roots; common very fine tubular pores; few thin clay films on faces of peds in pores; 15 percent cobbles and 30 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

Bt2—19 to 34 inches; pale brown (10YR 6/3) very gravelly loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, sticky and plastic; common very fine and fine and few medium roots; common very fine and few fine tubular pores; common thin clay films on faces of peds and in pores; 10 percent cobbles and 35 percent gravel; slightly acid (pH 6.5); abrupt wavy boundary.

Cr—34 to 40 inches; soft andesitic tuff; can dig with spade and cut with knife; sodium fluoride pH (8.6).

Type location: north of Said Valley Reservoir; about 4.5 miles north along Hwy 139 from the intersection of Grasshopper Road and Hwy 139, then about 1.8 miles east along trail to Totten Camp and 100 feet west of trail about 1,200 feet east and 1,200 feet south of the northwest corner of Sec. 7, T.36 N., R.11 E.

Range in Characteristics:

Soil moisture: Usually moist, dry for 80 to 100 days in summer and fall. Xeric moisture regime.

Soil temperatures: 44 to 47 degrees F.

Reaction: Medium acid or slightly acid.

Depth to bedrock: 20 to 40 inches.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3.

Texture—Very gravelly loam or cobbly loam.

Rock fragments—30 to 45 percent.

Clay content—10 to 18 percent.

Bt horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4.

Clay content—20 to 25 percent.

Rock fragments—35 to 45 percent.

mountain side slopes. These soils formed in residuum and colluvium weathered from basalt or andesite. Slopes range from 2 to 50 percent.

Taxonomic class: Loamy-skeletal, isotic, frigid Vitrandic Haploxerolls

Typical pedon: Fredonyer very stony loam, located in map unit 259, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 4 inches; brown (7.5YR 4/2) very stony loam, dark brown (7.5YR 3/2) moist; weak fine granular structure; soft, very friable, slightly sticky, slightly plastic; many very fine roots; many very fine interstitial pores; 12 percent stones, 5 percent cobbles and 20 percent gravel; slightly acid (pH 6.1); clear smooth boundary.

A2—4 to 12 inches; brown (7.5YR 4/2) very gravelly loam, dark brown (7.5YR 3/2) moist; weak medium and coarse subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; many very fine and fine interstitial and tubular pores; 10 percent cobbles and 30 percent gravel; slightly acid (pH 6.5); gradual wavy boundary.

Bw1—12 to 20 inches; brown (7.5YR 5/2) very cobbly loam, dark brown (7.5YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine, few medium and coarse roots; many very fine and common fine tubular pores; 1 percent stones, 25 percent cobbles, and 20 percent gravel; slightly acid (pH 6.5); gradual wavy boundary.

Bw2—20 to 28 inches; brown (7.5YR 5/2) very cobbly loam, dark brown (7.5YR 3/2) moist; moderate medium and coarse angular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine, and few medium roots; many very fine tubular and few fine tubular pores; 20 percent cobbles and 20 percent gravel; slightly acid (pH 6.5); abrupt wavy boundary.

R—28 inches; hard massive andesite with few fractures more than 4 inches apart.

Type location: About 34 miles north of Susanville near Hwy 139; about 1 mile north of the Grasshopper fire station, then west 1.1 miles from the intersection of Hwy 139 and dirt road and about 250 feet south of this road to site; 300 feet east and 200 feet south of the northwest corner of Sec. 28, T.34 N., R.11. E.

Range in Characteristics:

Soil moisture: Usually dry from August 1 to November 1, and moist from December 1 to May 15. Xeric moisture regime.

Fredonyer series

The Fredonyer series consists of moderately deep, well drained soils on ridge crests, shoulder slopes and

Soil temperature: 42 to 46 degrees F.

Solum thickness and depth to bedrock: 20 to 40 inches.

Mollic epipedon: 20 to 30 inches.

Reaction: Slightly acid or neutral.

Control section:

Clay content—18 to 25 percent.

Rock fragments—40 to 60 percent.

A horizon:

Hue—10YR, 7.5YR, 5YR.

Value—4 to 5 dry, 2 to 3 moist.

Chroma—2 to 3, dry or moist.

Texture—Upper part very stony loam or stony loam,
lower part very cobbly loam or very gravelly loam.

Structure—Weak or moderate, fine or medium
granular or subangular blocky structure.

Bw horizon:

Hue—10YR, 7.5YR, 5YR.

Value—4 to 5 dry, 3 moist.

Texture—Very cobbly loam or very gravelly loam.

Fulstone series

The Fulstone series consists of shallow, well drained soils on fan remnants. These soils formed in alluvium from mixed rock sources. Slopes range from 2 to 9 percent.

Taxonomic class: Clayey, smectitic, mesic, shallow
Abrupt Xeric Argidurids

Typical pedon: Fulstone very cobbly loam, located in map unit 214, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 2 inches; light brownish gray (10YR 6/2) very cobbly loam, very dark grayish brown (10YR 3/2) moist; weak very thin platy structure; slightly hard, very friable, sticky and plastic; many very fine roots; common very fine and fine vesicular pores; 30 percent cobbles and 15 percent gravel; neutral (pH 7.0); abrupt wavy boundary.

Bt1—2 to 5 inches; brown (7.5YR 5/2) gravelly clay, dark brown (7.5YR 4/2) moist; moderate very fine subangular blocky structure; slightly hard, very friable, very sticky and plastic; common very fine roots; many very fine and fine interstitial pores; 5 percent cobbles and 15 percent gravel; common thin clay films on faces of peds and in pores; neutral (pH 7.0); clear wavy boundary.

Bt2—5 to 8 inches; brown (7.5YR 5/2) gravelly clay, dark brown (7.5YR 4/2) moist; moderate fine and medium

angular blocky structure; hard, friable, very sticky and very plastic; common very fine roots; common very fine pores, common pressure faces; 10 percent cobbles and 10 percent gravel; many thin and moderately thick clay films in pores and on peds; slightly alkaline (pH 7.5); clear wavy boundary.

Bt3—8 to 14 inches; brown (7.5YR 5/2) gravelly clay, dark brown (7.5YR 4/2) moist; weak medium prismatic structure parting to moderate medium and coarse angular blocky; very hard, friable, very sticky and very plastic; common very fine roots; few very fine tubular pores; common pressure faces; 20 percent gravel; many thin and moderately thick clay films on faces of peds and in pores; slightly alkaline (pH 7.5); clear wavy boundary.

2Bkqm1—14 to 20 inches; pink (7.5YR 8/4) and dark brown (7.5YR 4/4) indurated duripan; reddish yellow (7.5YR 8/6) and dark brown (10YR 4/3) moist; massive; extremely hard and extremely firm; continuous 1 to 3 mm silica laminae; alternate 1 to 2 inch layers of indurated and strong silica cementation; cemented cobbles and gravel; digs out in weak very thick plates; 60 percent rock fragments; violently effervescent, lime segregated in common fine seams; moderately alkaline (pH 8.0); abrupt wavy boundary.

2Bkqm2—20 to 60 inches; pinkish white (N8/) and white (7.5YR 8/2) cemented duripan; discontinuous lenses of hard stratified very gravelly loamy coarse sand to very gravelly loam; massive, 60 percent gravel; strongly effervescent, lime in common fine seams and on the underside of gravel; moderately alkaline (pH 8.0).

Type location: About 1,100 feet west and 700 feet north of the southeast corner of Sec. 35, T.32 N., R.17 E.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry from June through October. Aridic moisture regime bordering on xeric.

Soil temperature: 47 to 53 degrees F.

Depth to indurated duripan: 14 to 20 inches.

Other features: Some pedons have a thin Bt3 horizon with clay or clay loam textures.

Control section:

Clay content—45 to 60 percent.

Rock fragments—0 to 15 percent with individual horizon ranging to as high as 20 percent.

A horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—1 through 3.

Reaction—Slightly acid to slightly alkaline.

Bt horizon:

Hue—7.5YR or 10YR.

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 6.

Structure—Prismatic, angular blocky, or subangular blocky.

Clay content—45 to 60 percent.

Rock fragments—Usually free of rock fragments, but some pedons average up to 20 percent pebbles or cobbles due to mixing by burrowing animals.

Reaction—Neutral through moderately alkaline.

Bkqm horizon:

Other features—Continuously cemented, but broken in some places by burrowing animals.

Reaction—Slightly alkaline through strongly alkaline.

Remarks

The soils mapped as Fulstone in this area are outside the range for the series. They have higher precipitation and shorter frost-free season than is defined for the series. This difference, however, does not significantly affect use and management.

Galeppi series

The Galeppi series consists of very deep, well drained soils on fan remnants. These soils formed in alluvium from mixed rock sources. Slopes range from 2 to 30 percent.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Argiduridic Argixerolls

Typical pedon: Galeppi loamy sand, located in map unit 217, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 10 inches; brown (10YR 5/3) loamy sand, dark brown (10YR 3/3) moist; single grain; loose, very friable, nonsticky and nonplastic; common very fine roots; many very fine interstitial pores; neutral (pH 6.8); clear smooth boundary.

AB—10 to 18 inches; light yellowish brown (10YR 6/4) loamy sand, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few medium roots; many very fine interstitial pores; neutral (pH 7.0); clear smooth boundary.

Bt—18 to 36 inches; light yellowish brown (10YR 6/4) sandy clay loam, dark yellowish brown (10YR 4/4)

moist; moderate fine and medium angular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine and few medium roots; many very fine tubular pores; many moderately thick clay films on faces of peds; slightly alkaline (pH 7.4); abrupt smooth boundary.

Bq1—36 to 44 inches; light yellowish brown (10YR 6/4) sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium platy structure; hard, firm, brittle wet; few very fine roots; many very fine tubular pores; continuous brittle matrix; slightly alkaline (pH 7.4); gradual smooth boundary.

Bq2—44 to 52 inches; light yellowish brown (10YR 6/4) sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine and medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; 30 percent weak durinodes; slightly alkaline (pH 7.4); gradual smooth boundary.

C—52 to 60 inches; very pale brown (10YR 7/4) loamy sand, dark yellowish brown (10YR 4/4) moist; single grain; loose, very friable, nonsticky and nonplastic; few very fine roots, many very fine interstitial pores; slightly alkaline (pH 7.4).

Type location: About 2 miles northeast of Doyle, CA.; 1.2 miles south of intersection of Laver Crossing and Ft. Sage Rd. to a Y; 1.0 mile north on the east branch of Ft. Sage Rd. to a trail; 2,500 feet east on the trail; 75 feet south of trail; 500 feet south and 700 feet west of the center of section 32, T.26 N., R.17 E.

Range in Characteristics:

Soil moisture: Usually dry mid June to mid November, moist from December 1 to April 15. Aridic moisture regime bordering on xeric.

Soil temperature: 41 to 47 degrees F.

Depth to weak silica cementation: 20 to 34 inches.

Rock fragments: 0 to 20 percent, mostly cobbles.

A horizon:

Value—4 to 5 dry, 2 to 3 moist.

Chroma—1 through 3, dry or moist.

Texture—Loamy sand, loamy coarse sand, sandy loam.

Reaction—Slightly acid to slightly alkaline.

Bt horizon:

Hue—10YR, 7.5YR, 2.5Y.

Value—3 through 6 dry, 3 through 5 moist.

Chroma—3 through 6, dry or moist.

Texture—Sandy clay loam, clay loam.

Clay content—20 to 30 percent.

Structure—Weak to strong medium prismatic or moderate angular blocky structure.
 Reaction—Neutral or slightly alkaline.

Bq and C horizon:

Hue—10YR, 7.5YR, 2.5Y.
 Value—5 through 7 dry, 4 to 5 moist.
 Chroma—2 through 6, dry or moist.
 Texture—Loam, sandy loam, loamy sand.

Gavel series

The Gavel series consists of moderately deep, well drained soils on back slopes of mountains and lava plateaus. These soils formed in residuum and colluvium weathered from basalt or andesite. Slopes range from 5 to 30 percent.

Taxonomic class: Loamy-skeletal, isotic, mesic
 Vitrandic Argixerolls

Typical pedon: Gavel stony loam, located in map unit 173, forestland. (Colors are for dry soils unless otherwise noted).

A1—0 to 4 inches; reddish brown (5YR 5/3) gravelly loam, dark reddish brown (5YR 3/2) moist; medium very fine and fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine interstitial and common very fine tubular pores; 3 percent stones, 5 percent cobbles, and 25 percent gravel; slightly acid (pH 6.1); clear wavy boundary.

A2—4 to 12 inches; reddish brown (5YR 4/4) very gravelly loam, dark reddish brown (5YR 3/3) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, common fine and few medium roots; many very fine interstitial and tubular pores; 5 percent cobbles composed of weathered andesite, and 30 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

Bt1—12 to 18 inches; reddish brown (5YR 4/4) very gravelly loam, dark reddish brown (5YR 3/3) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, common fine and few medium roots; many very fine interstitial and tubular pores; few thin clay films on faces of peds and in pores; 5 percent cobbles composed of weathered andesite, and 45 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

Bt2—18 to 27 inches; yellowish red (5YR 4/6) very gravelly loam, dark reddish brown (5YR 3/4) moist; moderate fine and medium angular blocky structure; slightly hard, very friable, sticky and plastic; common very fine, fine and medium roots; many very fine interstitial and tubular pores; common thin clay films bridging sand grains and in pores; 5 percent cobbles composed of weathered andesite, and 40 percent gravel; slightly acid (pH 6.5); abrupt wavy boundary.
 Cr—27 to 70 inches; soft weathered andesite, slightly fractured in upper 6 inches, few pockets of medium roots, pockets of clay films appear weathered in place.

Type location: About 8 miles northwest of Susanville; from the intersection of Hwy 139 and Rice Canyon Road, 0.5 mile south on Rice Canyon Road then east on trail 0.28 mile to fork; site is between forks, 40 feet from their confluence and 10 feet south of the north fork; 370 feet west and 1,650 feet south of northeast corner of Sec. 8, T.30 N., R.13 E.

Range in Characteristics:

Soil moisture: Usually dry from July 15 to November 1, moist from December 1 to May 1. Xeric moisture regime.

Soil temperature: 41 to 47 degrees F.

Solum thickness and depth to a paralithic contact: 20 to 40 inches.

Mollic epipedon: 8 to 18 inches thick, and in some pedons includes part of the B horizon.

Reaction: Slightly acid or neutral.

Rock fragments: 15 to 25 percent, mostly cobbles and gravel.

Base saturation: 10 to 30 inches, 60 to 75 percent.

A horizon:

Hue—7.5YR, 5YR.

Value—4 to 5 dry, 3 moist.

Chroma—2 through 4, dry or moist.

Texture—Stony loam or gravelly loam.

Clay content—10 to 20 percent.

Rock fragments—Cobbles and gravel, mostly cobbles, range from 15 to 35 percent.

Bt horizon:

Hue—7.5YR, 5YR.

Value—4 to 5 dry, 3 moist.

Chroma—2 through 6, dry or moist.

Texture—Very cobbly loam or very gravelly loam.

Clay content—20 to 27 percent clay.

Rock fragments—Cobbles and gravel, mostly cobbles, range from 35 to 50 percent.

Gerlach series

The Gerlach series consists of very deep, well drained soils on alluvial flats. These soils formed in alluvium weathered from volcanic rocks. Slopes range from 2 to 9 percent.

Taxonomic class: Fine, smectitic, mesic Aridic Haploxererts

Typical pedon: Gerlach silty clay, located in map unit 220, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 3 inches; dark grayish brown (10YR 4/2) silty clay, very dark grayish brown (10YR 3/2) moist; strong very fine granular structure; soft, very friable, very sticky and very plastic; few very fine and fine roots; common very fine interstitial pores; vertical cracks about 1 inch wide; neutral (pH 6.7); clear smooth boundary.

Ass1—3 to 14 inches; brown (7.5YR 4/2) silty clay, dark brown (7.5YR 3/2) moist; strong coarse prismatic structure; very hard, very friable, very sticky and very plastic; common very fine, fine, medium and coarse roots; common very fine and fine tubular pores; vertical cracks about 1 cm wide; few small intersecting slickensides; neutral (pH 6.6); abrupt wavy boundary.

Ass2—14 to 36 inches; brown (7.5YR 5/2) silty clay, dark brown (7.5YR 3/2) moist; strong coarse prismatic structure; very hard, friable, very sticky and very plastic; few very fine and fine and common medium roots; common very fine and few fine tubular pores; vertical cracks about 1 cm wide; few small intersecting slickensides; neutral (pH 7.0); gradual wavy boundary.

Ass3—36 to 44 inches; brown (7.5YR 4/4) silty clay, dark yellowish brown (10YR 3/4) moist; moderate coarse angular blocky structure; hard, friable, very sticky and very plastic; few very fine and fine roots; common very fine and fine tubular pores; vertical cracks about 1 cm wide; few small intersecting slickensides; moderately alkaline (pH 8.0); clear wavy boundary.

C—44 to 52 inches; light yellowish brown (10YR 6/4) silty clay, dark yellowish brown (10YR 4/4) moist; weak coarse angular blocky structure; slightly hard, friable, very sticky and very plastic; few very fine roots; many very fine and common fine tubular pores; moderately alkaline (pH 8.0); clear wavy boundary.

Ck—52 to 60 inches; pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; weak coarse angular blocky structure; slightly hard, very friable, sticky and plastic;

few very fine roots; many very fine and few fine interstitial and common very fine tubular pores; strongly effervescent; lime segregated in many fine soft masses; moderately alkaline (pH 8.0).

Type location: About 3 miles northeast of Hwy 395 along Smoke Creek Ranch Road and 0.7 mile northwest of Smoke Creek Ranch Road along dirt road; 650 feet west and 800 feet south of the northeast corner of Sec. 11, T.30 N., R.15 E.

Range in Characteristics:

Soil moisture: Aridic moisture regime bordering on xeric.

Soil temperature: 50 to 53 degrees F.

Cracks: 1 to 7.5 cm wide, open and close once each year and extend from the surface to a depth of 44 inches, forming large prisms. The cracks remain open from June through mid-December for about 200 days.

Slickensides: Few to common intersecting slickensides occur at a depth of 5 to 44 inches. Common wedge-shaped aggregates are at a depth of 5 to 36 inches.

Depth to carbonates: 40 to 60 inches.

Upper A horizon:

Hue—10YR, 7.5YR.

Value—4 to 5 dry, 3 moist.

Texture—Silty clay, clay, cobbly silty clay or cobbly clay.

Clay content—40 to 60 percent clay.

Rock fragments—Cobbles only occur in the A1 horizon and range from 0 to 30 percent.

Lower A horizon:

Hue—10YR, 7.5YR.

Value—4 to 5 dry, 3 moist.

Chroma—2 through 4, dry or moist.

C horizon:

Hue—10YR, 7.5YR.

Value—6 dry, 3 to 4 moist.

Texture—Silty clay, clay, or clay loam and is stratified.

Reaction—Neutral through moderately alkaline.

Gerle series

The Gerle series consists of very deep, well drained soils on outwash plains and moraines. These soils formed in glacial outwash. Slopes range from 2 to 70 percent.

Taxonomic class: Coarse-loamy, mixed, superactive, frigid Humic Dystrocherepts

Typical pedon: Gerle sandy loam, located in map unit 224, forestland. (Colors are for dry soils unless otherwise noted).

A1—0 to 7 inches; dark grayish brown (10YR 4/2) sandy loam, very dark brown (10YR 2/2) moist; weak fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine, fine and medium roots; many very fine interstitial pores; 5 percent 10 mm to 40 mm angular granitic gravel; slightly acid (pH 6.3); clear wavy boundary.

A2—7 to 18 inches; brown (10YR 5/3) sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine, fine, medium and few coarse roots; many very fine interstitial pores; 1 percent 2 to 10 mm gravel; slightly acid (pH 6.3); clear wavy boundary.

Bw1—18 to 32 inches; brown (10YR 5/3) sandy loam, dark brown (10YR 4/3) moist; weak fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and fine, common medium and coarse roots; many very fine interstitial pores; 3 percent 2 to 10 mm gravel; slightly acid (pH 6.3); clear wavy boundary.

Bw2—32 to 46 inches; pale brown (10YR 6/3) sandy loam, dark brown (10YR 4/3) moist; massive, soft, very friable, nonsticky and nonplastic; many very fine and fine, common medium and few coarse roots; many very fine interstitial pores; 3 percent 2 to 10 mm gravel; slightly acid (pH 6.1); clear irregular boundary.

C—46 to 60 inches; pale brown (10YR 6/3) and light gray (10YR 7/2) gravelly sandy loam, dark brown (10YR 4/3) and grayish brown (10YR 5/2) moist; massive, soft, very friable, nonsticky and nonplastic; many very fine, common fine and medium and few coarse roots; many very fine interstitial pores; 20 percent 2 to 10 mm gravel; moderately acid (pH 5.6).

Type location: About 2,300 feet west and 500 feet north of the southeast corner of Sec. 31, T.29 N., R.12 E.

Range in Characteristics:

Soil moisture: Usually moist mid October to mid July, dry from late July to early October. Xeric moisture regime.

Soil temperature: 42 to 47 degrees F.

Depth to unweathered stratified sands and gravel: Greater than 60 inches.

Solum thickness: 20 to 35 inches but ranges from 14 to 50 inches.

Umbric epipedon: 7 to 20 inches thick.

Base saturation in the epipedon: 5 to 40 percent and commonly is about 20 percent.

A horizon:

Hue—10YR, 7.5YR.

Value—4 to 5 dry, 2 to 3 moist.

Chroma—2 through 4, dry or moist.

Texture—Sandy loam, coarse sandy loam or very bouldery sandy loam.

Rock fragments—2 to 15 percent gravel, 0 to 10 percent cobbles, and 0 to 10 percent boulders.

Reaction—Slightly acid to strongly acid.

Bw horizon:

Hue—10YR, 7.5YR.

Value—5 to 6 dry, 3 to 4 moist.

Texture—Sandy loam or coarse sandy loam.

Rock fragments—2 to 15 percent gravel and 0 to 10 percent cobbles.

Reaction—Slightly acid to medium acid.

C horizon:

Hue—10YR, 7.5YR.

Value—5 through 7 dry, 3 through 5 moist.

Chroma—2 through 7, dry or moist

Other features—The lower part of this horizon commonly is cobbly or gravelly coarse sandy loam and less commonly sandy loam or gravelly loamy coarse sand. It has 5 to 25 percent gravel and 0 to 25 percent cobbles.

Reaction—Neutral to medium acid.

Remarks

The soils mapped as Gerle in the map unit 337 have an elevation of 4,550 to 4,650 feet, which is outside the range for the series as mapped in other parts of this survey area and as mapped elsewhere.

Glean series

The Glean series consists of deep, well drained soils on mountain back slopes. These soils formed in colluvium weathered from andesite and basalt. Slopes range from 5 to 50 percent.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Pachic Haploxerolls

Typical pedon: Glean very gravelly sandy loam, located in map unit 226, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 3 inches; dark grayish brown (10YR 4/2) very gravelly sandy loam, black (10YR 2/1) moist; moderate medium and fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine

and fine roots; many very fine and fine interstitial pores; 1 percent stones, 2 percent cobbles, and 35 percent gravel; slightly acid (pH 6.5); clear smooth boundary.

A2—3 to 14 inches; dark grayish brown (10YR 4/2) very gravelly sandy loam, black (10YR 2/1) moist; moderate medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and common fine roots; many very fine and common fine tubular and interstitial pores; 3 percent stones, 5 percent cobbles, and 40 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

A3—14 to 34 inches; dark grayish brown (10YR 4/2) very gravelly sandy loam, black (10YR 2/1); weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine tubular and interstitial and common fine tubular pores; 5 percent stones, 5 percent cobbles, and 35 percent gravel; slightly acid (pH 6.5); gradual wavy boundary.

C—34 to 44 inches; grayish brown (10YR 5/2) very gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; massive, soft, very friable, nonsticky and nonplastic; common fine and very fine roots; many very fine and common fine tubular and interstitial pores; 2 percent stones, 5 percent cobbles and 40 percent gravel; slightly acid (pH 6.5); abrupt irregular boundary.

R—44 inches; unweathered, fractured basalt, some soil fills the cracks, which are 4 to 12 inches apart; faces of rock have thin clay film coatings.

Type location: About 4.25 miles east from intersection Hwy 395 and Ram Horn Road and then about 2 miles southeast on dirt road, about 1,800 feet south and 1,400 feet west of the northeast corner of Sec. 30, T.33 N., R.16 E.

Range in Characteristics:

Soil moisture: Usually moist from the 1st of November until the 15th of July, dry throughout the rest of the time. Aridic moisture regime bordering on xeric.

Soil temperature: 43 to 47 degrees F.

Depth to a lithic contact: 40 to 70 inches.

Rock fragments: 40 to 70 percent by volume of gravel, cobblestones, and stones.

Texture: Sandy loam to loam modified by gravel, cobbles, stones, and boulders.

Clay content: 8 to 18 percent clay.

Reaction: Slightly acid to slightly alkaline and increases with increasing soil depth.

A horizon:

Value—3 to 4 dry, 2 to 3 moist.

Chroma—1 to 2, dry or moist.

Structure—Granular or subangular blocky structure.

Organic matter content—1 to 3 percent and decreases regularly with depth to less than 1 percent 22 to 39 inches below the surface.

C horizon:

Hue—10YR, 7.5YR, 2.5Y.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 to 2, dry or moist.

Glenbrook series

The Glenbrook series consists of shallow somewhat excessively drained soils on hills and mountain back slopes. These soils formed in residuum weathered from granite. Slopes range from 5 to 60 percent.

Taxonomic class: Mixed, mesic, shallow Xeric Torripsamments

Typical pedon: Glenbrook gravelly loamy coarse sand, located in map unit 229, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 3 inches; brown (10YR 5/3) gravelly loamy coarse sand, dark brown (10YR 4/3) moist; single grain; loose, soft, nonsticky and nonplastic; common very fine and few fine roots; many very fine interstitial pores; 20 percent 2 to 5 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

C—3 to 12 inches; pale brown (10YR 6/3) coarse sand, dark brown (10YR 3/3) moist; single grain; loose, soft, nonsticky, and nonplastic; common very fine, few fine and medium roots; many very fine interstitial pores; 10 percent 2 to 5 mm gravel; slightly acid (pH 6.5); abrupt wavy boundary.

Cr—12 inches; weathered granitic rock.

Type location: About 1.5 mile south of an intersection at north end of Turtle Rock on Ft. Sage Road to a trail, east uphill on trail 1.0 miles to intersection, south 1.0 mile to intersection, northeast 0.35 mile to end of trail, pit is 50 feet north of trail end; 900 feet W, 700 feet north of southeast corner of Section 21, T.26 N., R.17 E.

Range in Characteristics:

Soil moisture: Moist winter and spring, dry summer and autumn. Aridic moisture regime bordering on xeric.

Soil temperature: 47 to 53 degrees F.

Depth to paralithic contact: 10 to 20 inches.

Depth to hard bedrock: 24 to over 72 inches.

Control section:

Clay content—Less than 10 percent.

Texture—Loamy coarse sand, coarse sand, sand or loamy sand.

Rock fragments—10 to 25 percent, predominantly 2 to 5 millimeter diameter pebbles.

Profile reaction—Slightly acid or neutral.

Other features—Base saturation is over 75 percent in all parts.

A horizon:

Hue—10YR or 7.5YR.

Value—4 through 6 dry; 2 through 4 moist.

Chroma—2 or 3.

C horizons:

Hue—10YR or 7.5YR.

Value—5 through 7 dry, 2 through 4 moist.

Chroma—2 or 3.

Graufels series

The Graufels series consists of moderately deep, somewhat excessively drained soils on hill mountain back slopes. These soils formed in residuum and colluvium weathered from granite. Slopes range from 5 to 60 percent.

Taxonomic class: Mixed, mesic Torripsammentic Haploxerolls

Typical pedon: Graufels bouldery sand, located in map unit 230, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 14 inches; brown (10YR 5/3) bouldery sand, very dark grayish brown (10YR 3/2) moist; single grain; loose, nonsticky and nonplastic; common very fine roots; many very fine interstitial pores; 10 percent boulders, 5 percent 2 to 5 mm gravel; slightly acid (pH 6.5); gradual wavy boundary.

C—14 to 22 inches; pale brown (10YR 6/3) sand, dark brown (10YR 4/3) moist; single grain, loose, nonsticky and nonplastic; few very fine roots, many very fine interstitial pores; 5 percent 2 to 5 mm gravel; neutral (pH 7.0); abrupt wavy boundary.

Cr—22 inches; weathered granite.

Type location: About 4.5 miles northeast of Doyle, CA; 150 feet west, uphill from trail, 0.1 mile north of trail intersection; 200 feet west and 50 feet north of the east quarter corner of Sec. 20, T.26, R.17 E.

Range in Characteristics:

Soil moisture: Usually dry June through mid-November, moist winter and spring. Aridic moisture regime bordering on xeric.

Soil temperature: 47 to 53 degrees F.

Mollic epipedon thickness: 10 to 14 inches.

Depth to paralithic contact: 20 to 40 inches.

Texture: Averages sand, loamy sand, gravelly coarse sand, gravelly loamy coarse sand.

Rock fragments: Some pedons have strata with up to 35 percent coarse fragments that are dominantly smaller than 5 millimeters in diameter.

Reaction: Neutral or slightly acid

A horizon:

Value—4 or 5 dry.

Chroma—2 or 3.

Structure—Weak medium or fine subangular blocky or it is massive or single grain.

Consistence—Loose or soft when dry.

Other features—Organic matter is 1 to 3 percent.

C horizon:

Value—4 or 5 moist.

Chroma—2 through 4.

Hagata series

The Hagata series consists of moderately deep, well drained soils on terraces. These soils formed in residuum weathered from tuff and lacustrine sediments. Slopes range from 0 to 2 percent.

Taxonomic class: Fine, smectitic, mesic Xeric Paleargids

Typical pedon: Hagata silt loam, located in map unit 231, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 2 inches; light brownish gray (10YR 6/2) silt loam, dark grayish brown (10YR 4/2) moist; moderate medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine and fine interstitial and tubular pores; neutral (pH 7.0); abrupt smooth boundary.

A2—2 to 6 inches; light brownish gray (10YR 6/2) silt loam, dark grayish brown (10YR 4/2) moist; weak medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; common very fine tubular and

interstitial pores; neutral (pH 7.0); abrupt wavy boundary.

Bt—6 to 22 inches; brown (10YR 5/3) silty clay, dark brown (10YR 4/3) moist; moderate medium prismatic structure; very hard, firm, very sticky and very plastic; few very fine and fine roots; few very fine and fine tubular pores; common moderately thick clay films in pores and on peds; slightly alkaline (pH 7.5); abrupt wavy boundary.

2Cr—22 to 36 inches; unconsolidated tuff; massive; very hard, very firm and firm; abrupt smooth boundary.

3C—36 to 60 inches; light yellowish brown (10YR 6/4) loamy sand, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine interstitial pores; slightly effervescent with disseminated lime; slightly alkaline (pH 7.8).

Type location: About 6.0 miles east of Hwy 139 on road to Termo and 200 feet north of this road; about 2,600 feet east and 1,100 feet south of the northwest corner of Sec. 30, T.35 N., R.12 E.

Range in Characteristics:

Soil moisture: Usually dry throughout from June 15 to November 15 (150 days) and is moist throughout from December 1 to May 1. Aridic moisture regime bordering on xeric.

Soil temperature: 48 to 52 degrees F.

Solum thickness and depth to soft bedrock: 20 to 30 inches.

A horizon:

Clay content—12 to 15 percent.

Bt horizon:

Clay content—40 to 50 percent clay.

Reaction—Slightly or moderately alkaline.

Hangtown series

The Hangtown series consists of deep, well drained soils on mountain back slopes. These soils formed in residuum weathered from sedimentary rocks. Slopes range from 30 to 50 percent.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Typic Dystroxerepts

Typical pedon: Hangtown very cobbly sandy loam, located in map unit 232, forestland. (Colors are for dry soils unless otherwise noted). Surface is covered by

25 percent cobbles and by 0.2 percent boulders, 3 to 6 feet in diameter.

A—0 to 9 inches; brown (10YR 5/3) very cobbly sandy loam, dark brown (10YR 3/3) moist; moderate fine granular structure, soft, very friable, nonsticky and nonplastic; many very fine and common fine roots; many very fine interstitial pores; 30 percent gravel and 25 percent cobbles; slightly acid (pH 6.2); clear smooth boundary.

AB—9 to 17 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine, fine and few medium roots; many very fine interstitial pores; 55 percent gravel and 5 percent cobbles; slightly acid (pH 6.2); clear smooth boundary.

Bw1—17 to 37 inches; very pale brown (10YR 7/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine and few medium roots; many very fine tubular pores; 50 percent gravel and 5 percent cobbles; slightly acid (pH 6.2); clear smooth boundary.

Bw2—37 to 58 inches; very pale brown (10YR 7/4) very gravelly sandy loam, yellowish brown (10YR 5/4) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine, fine and medium roots; many very fine tubular pores; 50 percent gravel and 5 percent cobbles; slightly acid (pH 6.2).

Cr—58 to 62 inches; strongly weathered and fractured metavolcanic rock; fractures are 1 to 3 inches apart and are filled with soil and roots.

Type location: About 3.5 miles south of Westwood and 1.5 miles northwest of Dyer Mt. lookout, 5,000 feet south and 200 feet west of the northeast corner of Sec. 31, T.28 N., R.9 E.

Range in Characteristics:

Soil moisture: Usually dry in all parts of the moisture control section from about July 15 through October 15 (90 days). They are usually moist in some or all parts the rest of the year. Xeric moisture regime.

Soil temperature: 43 to 47 degrees F.

Depth to a paralithic contact: 40 to 60 inches.

Solum thickness: 18 to 26 inches but ranges from 14 to 31 inches.

Ochric epipedon: Chroma of 4 either at the surface or within 3 to 5 inches of the surface.

Reaction: Slightly to strongly acid throughout.

A horizons:

Hue—7.5YR, 10YR.
 Value—3 through 6 dry, 2 through 4 moist.
 Chroma—2 through 4, dry or moist.
 Texture—Sandy loam or fine sandy loam.
 Clay content—8 to 15 percent clay.
 Rock fragments—10 to 30 percent pebbles and 0 to 30 percent cobbles.

Bw horizons:

Hue—7.5YR, 10YR.
 Value—3 through 7 dry, 3 through 5 moist.
 Chroma—4 through 6, dry or moist.
 Texture—Sandy loam or fine sandy loam with 10 to 15 percent clay.
 Rock fragments—Averages 35 to 60 percent; 20 to 60 percent pebbles, 5 to 15 percent cobbles, and 0 to 15 percent stones.

slightly sticky and slightly plastic; common fine roots, many very fine interstitial pores; 5 percent stones, 10 percent cobbles, 30 percent gravel; neutral (pH 7.0); clear smooth boundary.

A4—21 to 41 inches; brown (7.5YR 4/2) very gravelly loam, dark brown (7.5YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine roots; common very fine interstitial pores; 5 percent stones, 10 percent cobbles and 30 percent gravel; neutral (pH 7.0); abrupt irregular boundary.

R—41 to 45 inches; massive hard basalt.

Type location: About 0.25 miles up southeast bound road from Rodeo Flat to Dry Lake; 2,200 feet north and 600 feet west of the southeast corner of Sec. 22, T.35 N., R.17 E.

Range in Characteristics:**Hapgood series**

The Hapgood series consists of deep, well drained soils on mountain back slopes. These soils formed in colluvium and residuum derived from mixed rock sources. Slopes range from 5 to 30 percent.

Taxonomic class: Loamy-skeletal, mixed, superactive, Pachic Haplocryolls

Typical pedon: Hapgood stony loam, located in map unit 296, rangeland. (Colors are for dry soils unless otherwise noted). Surface area is covered by 3 percent stones and 10 percent cobbles.

Soil moisture: Moist in winter and spring, dry late July through early October; xeric moisture regime bordering on aridic.

Soil temperature: 38 to 47 degrees F.

Summer soil temperature: 55 to 59 degrees F°.

Mollic epipedon thickness: 16 to 48 inches.

Depth to bedrock: 40 to 60 inches to a lithic contact.

Control section:

Clay content—18 to 27 percent.

Rock fragments—35 to 50 percent, dominantly pebbles.

Reaction—Slightly acid or neutral.

A1—0 to 4 inches; dark grayish brown (10YR 4/2) stony loam, very dark grayish brown (10YR 3/2) moist; moderate fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine interstitial pores; 10 percent stones, 5 percent cobbles, 20 percent gravel; slightly acid (pH 6.5); clear smooth boundary.

A2—4 to 10 inches; dark grayish brown (10YR 4/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common fine and many very fine roots; many very fine interstitial pores; 5 percent stones, 10 percent cobbles, 30 percent gravel; neutral (pH 7.0); clear smooth boundary.

A3—10 to 21 inches; brown (7.5YR 4/2) very gravelly loam, dark brown (7.5YR 3/2) moist; moderate fine subangular blocky structure; slightly hard, very friable,

A horizons:

Hue—10YR or 7.5YR

Value—2 through 5 dry, 2 or 3 moist.

Chroma—1 through 3 in most pedons, chroma of 1 is common only in A1 horizon and chroma of 3 is common only in A3 horizon or below.

Base saturation—50 to 75 percent in upper part.

Other features—A4 horizons may replace AC horizon in some pedons.

C horizon:

Hue—10YR or 7.5YR.

Value—4 through 7 dry, 3 through 5 moist.

Chroma—2 through 6.

Texture—Loam, but strata of fine sandy loam, sandy loam, silt loam, or clay loam are allowed.

Other features—Some pedons lack C horizons where the mollic epipedon rests on the bedrock at depths less than 48 inches.

Hart Camp series

The Hart Camp series consists of shallow, well drained soils on back slopes of mountains and plateaus. These soils formed in residuum weathered from andesitic tuff. Slopes range from 9 to 30 percent.

Taxonomic class: Loamy, mixed, superactive, frigid, shallow Aridic Argixerolls

Typical pedon: Hart Camp very stony loam, located in map unit 233, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 4 inches; brown (10YR 4/3) very stony loam, very dark grayish brown (10YR 3/2) moist; weak medium and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine, fine and many very coarse roots; common very fine and fine interstitial pores; 15 percent stones, 10 percent cobbles and 5 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

Bt—4 to 16 inches; dark brown (10YR 4/3) gravelly clay loam, dark brown (10YR 3/3) moist; weak medium thick platy structure; slightly hard, friable, sticky and plastic; few very fine, fine and many very coarse roots; common very fine and fine interstitial pores; 15 percent gravel; few clay films bridging mineral grains and on peds; neutral (pH 7.0); abrupt wavy boundary.

Cr—16 to 20 inches; soft weathered andesitic tuff bedrock.

Type location: About 800 feet west and 1,300 feet north of the southeast corner of Sec. 10, T.33 N., R.17 E.

Range in Characteristics:

Soil moisture: Usually dry; moist winter and spring, dry late June through October. Aridic moisture regime bordering on xeric.

Soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 7 to 15 inches, includes part or all of argillic horizon.

Depth to weathered bedrock horizon: 10 to 20 inches.

Control section:

Clay content—Averages 15 to 35 percent.

Rock fragments—Averages 15 to 35 percent.

Reaction—Slightly acid to neutral.

A horizon:

Value—4 through 6 dry, 2 or 3 moist. When the surface 7 inches are mixed, its value is less than 5.5.

Chroma—2 or 3.

Structure—Weak, fine or medium granular, subangular blocky, thin to thick platy or it is massive.

Consistence—Soft or slightly hard dry.

Bt horizons:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, 2 through 4 moist.

Chroma—2 through 4.

Texture—Gravelly sandy clay loam, gravelly clay loam, gravelly loam.

Clay content—20 to 35 percent. Subhorizons of clay occur in some pedons.

Rock fragments—Averages 15 to 35 percent.

Structure—Weak to strong, fine to coarse subangular or angular blocky or has moderate or strong, fine or medium prismatic in some pedons.

Cr horizon:

Other features—Bedrock is weathered in at least the upper 2 inches to as thick as 20 inches.

Haypress series

The Haypress series consists of deep, somewhat excessively drained soils on mountain back slopes. These soils formed in residuum and colluvium weathered from granite. Slopes range from 30 to 50 percent.

Taxonomic class: Mixed, frigid Psammentic Haploxerolls

Typical pedon: Haypress very bouldery loamy coarse sand, located in map unit 235, rangeland. (Colors are for dry soils unless otherwise noted). Surface area is covered by 5 percent boulders and 15 percent stones.

A—0 to 16 inches; brown (10YR 5/3) very bouldery loamy coarse sand, dark brown (10YR 3/3) moist; single grain; loose, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; 20 percent gravel; slightly acid (pH 6.4); gradual wavy boundary.

C—16 to 42 inches; pale brown (10YR 6/3) gravelly loamy coarse sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; common very fine and few fine roots; many very fine interstitial pores; 30 percent gravel; slightly acid (pH 6.4); abrupt wavy boundary.

Cr—42 inches; weathered granitic rock.

Type location: About 500 feet uphill from trail at the eastern end of the trail about 1.9 miles from its intersection with Hwy 395; 500 feet north and 750 feet east of the center of Sec 7, T.23 N., R.18 E.

Range in Characteristics:

Soil moisture: Usually dry in all parts from July 1 through November 15 (135 days) and moist in all parts from December through April. Aridic moisture regime bordering on xeric.

Soil temperature: 44 to 47 degrees F.

Depth to bedrock: 40 to 60 inches.

Reaction: Medium or slightly acid.

Texture: Loamy coarse sand and gravelly loamy coarse sand.

Mollic epipedon: 10 to 18 inches thick.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Herjun series

The Herjun series consists of very deep, moderately well drained soils on lake terraces. These soils formed in alluvium and lacustrine sediments. Slopes range from 0 to 2 percent.

Taxonomic class: Coarse-loamy, mixed, superactive, calcareous, mesic Oxyaquic Torriorthents

Typical pedon: Herjun loamy sand, located in map unit 236, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 4 inches; light gray (10YR 7/2) loamy sand, pale brown (10YR 6/3) moist; moderate medium and coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine, few fine and many medium roots; many very fine interstitial pores; electrical conductivity is 1 mmhos; sodium adsorption ratio is 3; moderately alkaline (pH 8.0); clear wavy boundary.

C—4 to 18 inches; very pale brown (10YR 7/3) loamy sand, yellowish brown (10YR 5/4) moist; moderate medium and coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and common fine roots; many very fine interstitial pores; violently effervescent with disseminated lime; electrical conductivity is 2 mmhos; moderately alkaline (pH 8.0); abrupt wavy boundary.

Cnq1—18 to 27 inches; very pale brown (10YR 8/3) sandy loam, yellowish brown (10YR 5/4) moist; continuous thin white (10YR 8/2) opal coatings on upper surface of peds, pale brown (10YR 6/3) moist; moderate medium platy structure parting to strong thin platy; hard, brittle and firm, slightly sticky and nonplastic; few very fine and fine roots; common very fine interstitial pores; plates separate but do not slake after overnight soaking in dilute hydrochloric acid; violently effervescent with disseminated lime; electrical conductivity is 10 mmhos; sodium adsorption ratio is 165; moderately alkaline (pH 8.4); clear wavy boundary.

Cnq2—27 to 40 inches; pale yellow (2.5Y 7/4) sandy loam, light olive brown (2.5Y 5/4) moist; continuous thin yellowish brown (10YR 5/4) opal coatings on upper surface of peds, yellowish brown (10YR 5/4) moist; moderate thick platy structure parting to strong thin platy; hard, brittle and firm, slightly sticky and nonplastic; few very fine and fine roots; common very fine tubular pores; violently effervescent with disseminated lime; electrical conductivity is 10 mmhos; sodium adsorption ratio is 175; strongly alkaline (pH 8.6); clear wavy boundary.

2C—40 to 53 inches; pale yellow (2.5Y 7/4) loamy sand, light olive brown (2.5Y 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; many very fine interstitial and common very fine tubular pores; strongly effervescent with disseminated lime; electrical conductivity is 10 mmhos; strongly alkaline (pH 8.8); abrupt wavy boundary.

3C—53 to 60 inches; light gray (2.5Y 7/2) loam, grayish brown (2.5Y 5/2) moist; common fine distinct pale yellow (2.5Y 7/4) and few fine distinct light olive brown (2.5Y 5/4) mottles, very dark grayish brown (2.5Y 3/2) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine and few fine roots; common very fine interstitial pores; electrical conductivity is 4 mmhos; strongly alkaline (pH 8.6).

Type location: About 1.7 miles northeast of County Road A25 where it crosses Long Valley Creek; 250 feet south and 1,300 feet west of the northeast corner of Sec. 32, T.27 N., R.16 E.

Range in Characteristics:

Soil moisture: These soils are saturated between the depths of 50 and 60 inches at some time from December through May due to a seasonal water table. Aridic moisture regime bordering on xeric.

Soil temperature: 53 to 56 degrees F.

Depth to the weakly cemented horizon: 12 to 31 inches.

Depth to redoximorphic features: 29 to 53 inches.

Depth to carbonates: 0 to 7 inches.

Control section:

Texture—Sandy loam or loam.

Clay content—10 to 15 percent clay.

A horizon:

Hue—10YR, 2.5Y.

Value—6 through 8 dry, 4 through 6 moist.

Chroma—1 through 4, dry or moist.

Texture—Loamy sand or silt loam.

Reaction—Moderately or strongly alkaline.

Electrical conductivity—0 to 4 mmhos.

SAR—3 to 20.

Cnq and 2C horizons:

Hue—10YR, 2.5Y.

Value—6 through 8 dry, 5 moist.

Chroma—2 through 6, dry or moist.

Texture of the Cnq horizon—Sandy loam or loam.

Texture of the 2C horizon—Loamy sand or loamy coarse sand.

Electrical conductivity—8 to 16 mmhos.

SAR—100 to 200.

3C horizon:

Value—7 to 7 dry, 5 to 6 moist.

Electrical conductivity—4 to 16.

SAR—30 to 60.

Herlong series

The Herlong series consists of very shallow and shallow, well drained soils on lake terraces. These soils formed in mixed alluvium and lacustrine sediments. Slopes range from 0 to 2 percent.

Taxonomic class: Loamy, mixed, superactive, mesic, Lithic Haplocalcids

Typical pedon: Herlong fine sandy loam, located in map unit 271, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 3 inches; light brownish gray (10YR 6/2) fine sandy loam, dark grayish brown (10YR 4/2) moist; moderate thin and medium platy structure; slightly hard, very friable, slightly sticky and non plastic; few very fine roots; many very fine vesicular and interstitial pores; 10 percent gravel; strongly effervescent; 12 percent calcium carbonate equivalent; strongly alkaline (pH 8.8); clear wavy boundary.

Bkn1—3 to 6 inches; white (10YR 7/2) loam, brown (10YR 4/3) moist; strong medium and thick platy structure; hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine and common fine vesicular and interstitial pores; strongly effervescent with fine coats of lime on faces of peds; secondary carbonates segregated as common (5%); 13 percent calcium carbonate equivalent; strongly alkaline (pH 9.0); clear wavy boundary.

Bkn2—6 to 9 inches; light gray (10YR 7/2) loam, brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular and interstitial pores; 14 percent gravel; violently effervescent with lime on faces of peds and filaments; secondary carbonates segregated as common (10%); 16 percent calcium carbonate equivalent; strongly alkaline (pH 9.0); abrupt wavy boundary.

2R—9 to 12 inches; very pale brown (10YR 8/2) indurated tufa, very pale brown (10YR 7/3) moist; massive; extremely hard, extremely firm; cementation is completely destroyed after soaking for 20 minutes in concentrated HCL; cobbles and gravel cemented into matrix; some cobbles have a 2 inch calcium carbonate capping; many spaces between rock fragments have indurated calcium carbonate pendants; strongly effervescent; 60 percent calcium carbonate equivalent; clear wavy boundary.

3Ck—12 to 17 inches; light gray (10YR 7/2) stratified very gravelly sandy loam, light brownish gray (10YR 6/2) moist; single grain; loose, nonsticky and nonplastic; few medium pores; 5 percent cobbles, 45 percent gravel; violently effervescent, lime is disseminated; 6 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); clear wavy boundary.

3Bkq1—17 to 26 inches; pale yellow (2.5Y 7/4) stratified very gravelly coarse sandy loam, olive brown (2.5Y 4/4) moist; massive; hard, friable, slightly sticky and non plastic; few very fine roots; common very fine and fine tubular and interstitial pores; many thin lime and silica coats bridging mineral grains; 5 percent cobbles; 50 percent gravel; noneffervescent matrix, many medium and large filaments and seams of lime; 60 percent of the surface of rock fragments covered with coats of lime; 20 to 30 percent of the horizon is discontinuous weakly calcium carbonate cemented pieces slake in diluted HCL after effervescing; 6 percent calcium carbonate equivalent; very strongly alkaline (pH 9.4); clear wavy boundary.

3Ckq2—26 to 46 inches; light yellowish brown (2.5Y 6/4) stratified gravelly coarse sandy loam, olive brown (2.5Y 4/4) moist; massive; hard, friable, slightly sticky

and slightly plastic; few very fine roots; many very fine interstitial pores; many thin lime and silica coats bridging mineral grains; 30 percent gravel; noneffervescent matrix, common medium and large filaments and seams of lime; 9 percent calcium carbonate equivalent; very strongly alkaline (pH 10.3); clear wavy boundary.

3Ck—46 to 68 inches; light brownish gray (2.5Y 6/2) stratified gravelly coarse sandy loam, very dark grayish brown (2.5Y 4/2) moist; single grain; loose, nonsticky and nonplastic; no roots; common fine interstitial pores; 50 percent gravel; violently effervescent, lime is disseminated; 6 percent calcium carbonate equivalent; very strongly alkaline (9.9); clear wavy boundary.

4R'—68 to 72 inches; strongly cemented tufa.

Type location: About 3 miles southeast of Herlong Siding and 60 feet north and 60 feet east of the dirt road intersection; 2,550 feet south and 50 feet east of the northwest corner of Section 27, T.28 N., R.17 E.

Range in Characteristics:

Soil moisture: The soils are dry in all parts of the moisture control section from May 1 to December 1 (214 days), and moist in all parts from December 15 to April 15. Aridic moisture regime.

Soil temperature: 54 to 58 degrees F.

Ochric epipedon thickness: 7 inches.

Depth to base of calcic horizon: 9 to 14 inches.

Depth to bedrock: 9 to 14 inches to a lithic contact of tufa. Tufa is a chemical sedimentary rock composed mainly of calcium carbonate and deposited from solution in the water of springs adjacent to lakes.

Control section:

Clay content—10 to 18 percent.

Sand content—35 to 55 percent.

Other features—Uncemented parent material is present below the lithic contact; other thin layers of tufa may be present between uncemented layers of parent material.

A horizon:

Hue—10YR, 2.5Y.

Value—6 through 8 dry, 4 to 5 moist.

Chroma—2 to 3, dry or moist.

Clay content—10 to 18 percent.

Reaction—Moderately alkaline or strongly alkaline.

Salinity (EC)—1 to 4 mmhos/cm.

Sodicity (SAR)—13 to 30.

Calcium carbonate equivalent—5 to 15 percent.

Other features—The soil surface has 5 to 10 percent pebbles and pebble-size tufa fragments.

Bkn horizons:

Hue—10YR, 2.5Y.

Value—6 through 8 dry, 4 to 5 moist.

Chroma—2 to 3, dry or moist.

Clay content—10 to 18 percent.

Reaction—Moderately alkaline or strongly alkaline.

Salinity (EC)—1 to 4 mmhos/cm.

Sodicity (SAR)—13 to 30.

Calcium carbonate equivalent—10 to 18 percent.

Identifiable secondary carbonates—Occurs as coats on faces of peds, rock fragments, and as filaments.

C horizons:

Hue—10YR, 2.5Y.

Value—6 through 8 dry, 4 through 6 moist.

Texture—Stratified gravelly sand to very gravelly sandy loam.

Rock fragments—15 to 50 percent, mainly pebbles.

Calcium carbonate equivalent—5 to 13 percent.

Highrock series

The Highrock series consists of very deep, well drained soils that formed in alluvium derived from basalt over lacustrine deposits derived from mixed sources. Highrock soils are on lake terraces. Slopes are 0 to 2 percent. The mean annual precipitation is about 7 inches and the mean annual temperature is about 51 degrees F.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Typic Natrargids

Typical pedon: Highrock fine sandy loam, located in map unit 239, on a slope of less than 1 percent under black greasewood, spiny hopsage, and bud sagebrush - rangeland. (Colors are for dry soil unless otherwise noted. On June 13, 1983, the soil described was nearly dry.)

A—0 to 3 inches; pale brown (10YR 6/3) fine sandy loam, dark brown (10YR 3/3) moist; moderate medium and thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine and fine vesicular and interstitial pores; moderately alkaline (pH 8.0); clear wavy boundary.

Btn—3 to 8 inches; brown (7.5YR 5/4) clay loam, brown (7.5YR 4/4) moist; strong fine and medium prismatic structure; hard, very friable, moderately sticky and moderately plastic; common very fine roots around peds; common very fine tubular pores; many distinct clay films on faces of peds and lining pores; slightly

effervescent; strongly alkaline (pH 8.5); clear wavy boundary.

Btkn—8 to 12 inches; brown (10YR 5/3) sandy clay loam, brown (10YR 4/3) moist; weak fine and medium prismatic structure parting to moderate fine and medium subangular blocky; hard, friable, moderately sticky and moderately plastic; common very fine and few fine roots; common distinct clay films on faces of peds and bridging mineral grains; secondary carbonates segregated as few fine and medium filaments near the lower horizon boundary; strongly effervescent; strongly alkaline (pH 8.5); clear wavy boundary. (The combined thickness of the Bt horizons is 7 to 12 inches.)

Bknz1—12 to 27 inches; pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; weak fine and medium subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; secondary carbonates segregated as many medium and coarse masses; soluble sodium salts segregated as common fine filaments; strongly effervescent; strongly alkaline (pH 8.5); clear wavy boundary.

2Bknz2—27 to 42 inches; pale brown (10YR 6/3) silty clay loam, brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; few very fine roots; common very fine tubular pores; secondary carbonates and soluble sodium salts segregated as common fine and medium filaments; strongly effervescent; strongly alkaline (pH 8.5); clear wavy boundary. (The combined thickness of the Bk horizons is 12 to 30 inches.)

2Cnz—42 to 65 inches; pale olive (5Y 6/3) clay loam, olive brown (2.5Y 4/4) moist; massive; slightly hard, very friable, moderately sticky and moderately plastic; few very fine roots; common very fine tubular pores; soluble sodium salts segregated as common fine filaments; violently effervescent; strongly alkaline (pH 8.5).

Type location: Lassen County, California; in Honey Lake Valley about 2 miles southwest of High Rock Ranch, 1.0 mile southwest of Stacy, and 0.2 mile north of the Honey Lake Cemetery; USGS Calneva Lake 7.5 minute topographic quadrangle; about 1,600 feet south and 20 feet east of the apparent northwest corner of section 2, T.27 N., R.17 E.

Range in Characteristics:

Soil moisture: These soils are dry in all parts of the soil moisture control section (6 to 18 inches) from April 15

to November 15 (215) days and moist in all parts from December 15 to March 15. Aridic moisture regime.

Soil temperature: 53 to 56 degrees F.

Depth to calcareous soil material: 0 to 5 inches.

Depth to identifiable secondary carbonates: 8 to 12 inches.

Depth to base of natric horizon: 11 to 16 inches.

Control section:

Clay content—Averages 27 to 35 percent.

Sand content—40 to 50 percent.

Rock fragments—0 to 5 percent pebbles. Lithology of rock fragments are mixed.

A horizon:

Value—6 through 8 dry, 3 through 5 moist.

Chroma—2 to 3, dry or moist.

Salinity (EC)—2 to 4 mmhos/cm.

Sodicity (SAR)—5 to 15.

Btn and Btkn horizons:

Hue—10YR, 7.5YR.

Value—5 through 7 dry, 3 through 5 moist.

Chroma—3 to 4, dry or moist.

Texture—Sandy clay loam or clay loam.

Clay content—27 to 35 percent.

Reaction—Moderately alkaline or strongly alkaline.

Identifiable secondary carbonates—Few to common masses or filaments in the Btkn horizon.

Calcium carbonate equivalent—1 to 5 percent.

Salinity (EC)—2 to 4 mmhos/cm.

Sodicity (SAR)—40 to 80.

Bknz1 horizon:

Value—6 to 7 dry, 3 to 4 moist.

Chroma—3 to 4, dry or moist.

Clay content—15 to 25 percent.

Effervescence—Strongly effervescent or violently effervescent.

Calcium carbonate equivalent—1 to 5 percent.

Salinity (EC)—8 to 32 mmhos/cm.

Sodicity (SAR)—40 to 270.

Identifiable secondary carbonates—Occurs as masses and filaments.

Visible soluble salts—Filaments of sodium salts such as mirabilite are present.

2Bknz2 and 2Cnz horizons:

Value—6 to 7 dry, 4 to 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Loam, clay loam, or silty clay loam.

Clay content—25 to 35 percent.

Effervescence—Strongly effervescent or violently effervescent.

Identifiable secondary carbonates—Occurs as filaments.

Calcium carbonate equivalent—1 to 5 percent.

Visible soluble salts—Filaments of sodium salts such as mirabilite are present.

Salinity (EC)—16 to 32 mmhos/cm.

Sodicity (SAR)—80 to 250.

Other features—Sandy substratum phases are recognized that have stratified fine sand, sand and loamy fine sand.

Other features—2C horizons at a depth of 23 to 35 inches.

few fine roots; few very fine tubular pores; many thick clay films on faces of peds and in pores; 10 percent cobbles and 30 percent gravel; neutral (pH 7.0); abrupt irregular boundary.

R—28 to 32 inches; hard, massive basalt.

Type location: About 19 miles northeast of Ravendale; 1.5 miles west of the California-Nevada state line on the Marr Road (Lassen County Road 526) then 0.3 north on dirt road and 100 feet east of this road; 500 feet south and 2,500 feet east of the northwest corner of Sec. 23, T.35 N., R.17 E.

Home Camp taxadjunct

The Home Camp taxadjunct consists of moderately deep, well drained soils on back slopes of mountains and broad ridges. These soils formed in material weathered from basalt or andesite. Slopes range from 5 to 30 percent.

Taxonomic class: Clayey-skeletal, smectitic, frigid
Aridic Argixerolls

Typical pedon: Home Camp stony loam, located in map unit 297, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 3 inches; brown (7.5YR 5/2) stony loam, dark brown (7.5YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; 15 percent stones, 10 percent cobbles and 5 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

A2—3 to 9 inches; brown (7.5YR 5/2) cobbly loam, dark brown (7.5YR 3/2) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; 10 percent gravel and 15 percent cobbles; neutral (pH 7.0); abrupt wavy boundary.

Bt1—9 to 17 inches; light brown (7.5YR 6/4) very cobbly clay loam, brown (7.5YR 4/4) moist; common fine and medium angular blocky structure; very hard, very friable, very sticky and very plastic; few very fine, few fine and few medium roots; common very fine tubular pores; many moderately thick clay films on faces of peds and in pores; 20 percent cobbles and 20 percent gravel; neutral pH 7.0); abrupt wavy boundary.

Bt2—17 to 28 inches; light brown (7.5YR 6/4) very gravelly clay, brown (7.5YR 4/4) moist; strong fine and medium angular blocky structure; very hard, very friable, very sticky and very plastic; few very fine and

Range in Characteristics:

Soil moisture: Moist winter and spring and early summer, dry late summer and fall. Aridic moisture regime bordering on xeric.

Soil temperature: 42 to 45 degrees F.

Summer soil temperature: 56 to 59 degrees F.

Mollic epipedon thickness: 9 to 16 inches.

Depth to soft bedrock: 20 to 40 inches.

Other features: Noncalcareous throughout.

Control section:

Clay content—35 to 50 percent when averaged.

Rock fragments—35 to 50 percent pebbles, cobbles, and stones.

A horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3 .

Structure—Platy, granular, subangular blocky or is massive.

Consistence—Soft or slightly hard.

Reaction—Slightly acid or neutral

BAt and Bt1 horizons:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 3 or 4 moist.

Chroma—2 through 4.

Texture—Sandy clay loam or clay loam.

Clay content—25 to 35 percent.

Rock fragments—35 to 60 percent pebbles, cobbles, or stones.

Structure—Subangular blocky or angular blocky.

Reaction—Slightly acid or neutral.

Bt2 horizon:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 4.

Texture—Clay or sandy clay.

Rock fragments—35 to 50 percent.

Clay content—40 to 50 percent.

Structure—Subangular blocky, angular blocky, or prismatic.

Remarks

The soils mapped as Home Camp in this area are taxadjuncts to the series and classify as clayey-skeletal, smectitic, frigid Aridic Argixerolls. They have mean summer soil temperatures ranging from 60 to 64 degrees F. This difference, however, does not significantly affect their use and management. Map units 240 and 297 have a contact of massive basalt.

Honeylake series

The Honeylake series consists of very deep, moderately well drained soils on lake terraces. These soils formed in alluvium derived from granite over lacustrine deposits derived from mixed sources. Slopes are 0 to 1 percent.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Oxyaquic Calcixerolls

Typical pedon: Honeylake clay loam, located in map unit 121, rangeland. (Colors are for dry soils unless otherwise noted).

Ap—0 to 5 inches; grayish brown (2.5Y 5/2) clay loam, very dark grayish brown (2.5Y 3/2) moist; moderate medium and coarse subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many very fine to medium roots; common very fine interstitial pores; violently effervescent; strongly alkaline (pH 9.0); abrupt wavy boundary. (4 to 7 inches thick)

A—5 to 16 inches; grayish brown (10YR 5/2) clay loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; common very fine and few fine roots; few very fine interstitial pores and few very fine tubular pores; violently effervescent; strongly alkaline (pH 9.0); clear smooth boundary. (6 to 11 inches thick)

Bw—16 to 26 inches; light gray (10YR 7/2) sandy loam, grayish brown (10YR 5/2) moist; moderate medium subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; few very fine and common fine roots; many very fine, common fine, and few medium tubular pores; violently effervescent; strongly alkaline (pH 9.0); clear wavy boundary. (6 to 12 inches thick)

Bk1—26 to 35 inches; light yellowish brown (2.5Y 6/4) sandy loam, olive brown (2.5Y 4/3) moist; weak

medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and common fine roots; many very fine, common fine, and few medium tubular pores; secondary carbonates segregated as common fine and medium white (10YR 8/2) masses; common fine and medium faint dark yellowish brown (10YR 4/4) moist masses of iron accumulation; violently effervescent; strongly alkaline (pH 8.8); clear wavy boundary.

Bk2—35 to 41 inches; light yellowish brown (2.5Y 6/4) and light brownish gray (2.5Y 6/2) sandy loam, olive brown (2.5Y 4/3) and dark grayish brown (2.5Y 4/2) moist; weak medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; few very fine roots; few very fine tubular pores; secondary carbonates segregated as common fine and medium very pale brown (10YR 8/2) masses; violently effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

Bk3—41 to 56 inches; light brownish gray (2.5Y 6/2) coarse sandy loam, dark grayish brown (2.5Y 4/2) moist; massive; slightly hard, very friable, slightly sticky and nonplastic; few very fine roots; few very fine tubular pores; secondary carbonates segregated as common fine and medium white (10YR 8/2) masses; strongly effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary. (Combined thickness of the Bk horizons is 20 to 35 inches)

C—56 to 67 inches; light yellowish brown (2.5Y 6/3) stratified coarse sandy loam, loamy sand, and fine sandy loam, dark grayish brown (2.5Y 4/2) moist; massive; slightly hard, very friable, slightly sticky and nonplastic; few very fine roots; many very fine interstitial pores; slightly effervescent; strongly alkaline (pH 8.8).

Type location: About 3 miles east of Buntingville, 0.25 mile east of Blickenstaff Road, and 200 feet north of Hemphill Road; about 1,000 feet east and 200 feet north of the southwest corner of section 8, T.28 N., R.14 E.

Range in Characteristics:

Soil moisture: The moisture control section is dry from June 15 to November 15 (153 days) and is moist in all parts from December 1 to April 15 (136 days). Aridic moisture regime that borders on xeric.

Soil temperature: 51 to 53 degrees F.

Mollic epipedon thickness: 10 to 18 inches.

Depth to base of cambic horizon: 24 to 30 inches.

Depth to calcic horizon: 24 to 30 inches.

Control section:

Clay content—Averages 10 to 18 percent.
 Rock fragments—0 to 10 percent, mostly granitic gravel.

Ap and A horizons:

Hue—10YR or 2.5Y.
 Chroma—1 or 2 dry, 1 through 3 moist.
 Clay content—27 to 32 percent.
 Organic matter content—1 or 2 percent.
 Reaction—Strongly alkaline or very strongly alkaline.
 Salinity (EC)—4 to 8 mmhos/cm.
 Sodicity (SAR)—13 to 80.
 Effervescence—Strongly effervescent or violently effervescent.
 Calcium carbonate equivalent—1 to 3 percent.

Bw horizon:

Hue—10YR or 2.5Y.
 Value—3 through 5 moist.
 Chroma—1 to 2 dry, 1 through 3 moist.
 Texture—Sandy loam or loam.
 Clay content—10 to 18 percent.
 Reaction—Strongly alkaline or very strongly alkaline.
 Salinity (EC)—4 to 8 mmhos/cm.
 Sodicity (SAR)—13 to 30.
 Effervescence—Strongly effervescent or violently effervescent.
 Calcium carbonate equivalent—1 to 5 percent.

Bk horizons:

Hue—10YR or 2.5Y.
 Value—6 through 8 dry, 4 through 6 moist.
 Chroma—1 through 4 dry, 2 through 4 moist.
 Texture—Sandy loam or coarse sandy loam.
 Clay content—10 to 18 percent.
 Salinity (EC)—4 to 8 mmhos/cm.
 Sodicity (SAR)—13 to 30.
 Effervescence—Strongly effervescent or violently effervescent.
 Identifiable secondary carbonates—Segregated as few to common masses and filaments.
 Calcium carbonate equivalent—5 to 15 percent.
 Redoximorphic features—Occurs as few or common redox concentrations of iron in some subhorizon.

C horizon:

Hue—10YR or 2.5Y.
 Value—5 through 8 dry, 4 through 6 moist.
 Chroma—1 through 4 dry, 2 through 4 moist.
 Texture—Stratified coarse sandy loam to fine loamy sand.
 Clay content—8 to 18 percent.
 Salinity (EC)—0 to 4 mmhos/cm.

Sodicity (SAR)—4 to 13.

Calcium carbonate equivalent—2 to 5 percent.

Redoximorphic features—Occurs as few or common redox concentrations of iron in some pedons.

Honlak series

The Honlak series consists of deep, somewhat poorly drained or well drained soils on stream terraces. These formed in alluvium from granitic and volcanic rock sources. Slopes range from 0 to 2 percent.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Aquic Natrargids

Typical pedon: Honlak loam, located in map unit 241, rangeland. (Colors are for dry soils unless otherwise noted).

An—0 to 4 inches; light gray (10YR 7/2) loam, grayish brown (10YR 5/2) moist; strong coarse angular blocky structure; very hard, friable, slightly sticky and slightly plastic; few very fine, fine and medium roots; many very fine tubular pores; surface has a crust of white salt; electrical conductivity is 2 mmhos; sodium adsorption ratio is 18; violently effervescent with disseminated lime; strongly alkaline (pH 9.0); abrupt wavy boundary.

BAtn—4 to 13 inches; light gray (10YR 7/2) sandy clay loam, grayish brown (10YR 5/2) moist; moderate medium angular blocky structure; hard, very friable, slightly sticky and slightly plastic; few very fine and fine, and many medium roots; common very fine and few fine interstitial pores; common thin clay films bridge mineral grains; electrical conductivity is 5 mmhos; sodium adsorption ratio is 33; violently effervescent with disseminated lime; moderately alkaline (pH 8.2); clear wavy boundary.

Btknz1—13 to 20 inches; light brownish gray (2.5Y 6/2) inped and light brownish gray (10YR 6/2) exped, sandy clay loam, light yellowish brown (2.5Y 6/4) inped and pale brown (10YR 6/3) exped moist; strong medium prismatic structure; hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine interstitial and few very fine tubular pores; continuous moderately thick clay films on faces of peds; violently effervescent, lime segregated in few fine soft masses; electrical conductivity is 12 mmhos; sodium adsorption ratio is 120; strongly alkaline (pH 8.8); clear wavy boundary.

Btknz2—20 to 28 inches; light brownish gray (2.5Y 6/2) loam, dark grayish brown (2.5Y 4/2) moist; moderate medium prismatic structure; slightly hard, very friable,

slightly sticky and slightly plastic; few very fine and fine roots; common very fine tubular pores; continuous thick clay films on faces of peds; violently effervescent, lime segregated in few fine soft masses; electrical conductivity is 11 mmhos; sodium adsorption ratio is 195; strongly alkaline (pH 8.8); clear wavy boundary.

Bkqz1—28 to 35 inches; pale yellow (5Y 7/3) coarse sandy loam, olive (5Y 5/3) moist; moderate coarse platy structure; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; many very fine interstitial pores; 30 percent hard, firm, 5 to 20 mm durinodes which are coated with opal; violently effervescent, lime segregated in few fine soft masses; electrical conductivity is 5 mmhos; sodium adsorption ratio is 100; moderately alkaline (pH 8.4); gradual wavy boundary.

Bkqz2—35 to 46 inches; variegated pale olive (5Y 6/3) and pale yellow (5Y 7/4) loam, olive (5Y 4/3) and olive (5Y 5/4) moist; strong medium platy structure; slightly hard, brittle, slightly sticky and slightly plastic; few very fine and fine roots; common very fine tubular pores; discontinuous glassy luster on surface of plates; weak discontinuous silica cementation, 30 percent hard, firm 5 to 20 mm durinodes which are coated with opal; violently effervescent, lime segregated in common fine soft masses; electrical conductivity is 6 mmhos; moderately alkaline (pH 8.2); clear wavy boundary.

C—46 to 60 inches; pale yellow (5Y 7/3) sandy loam, olive (5Y 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; many very fine interstitial pores; slightly effervescent with disseminated lime; electrical conductivity is 31 mmhos; moderately alkaline (pH 8.0).

Type location: About 1.4 miles north of County Road A25 on St. Jacques Road and 50 feet east of this road; about 1,400 feet east and 1,750 feet south of the northwest corner of Sec. 31, T.27 N., R.16 E.

Range in Characteristics:

Soil moisture: These soils are dry in all parts of the soil moisture control section (6 to 15 inches) from June 1 to November 15 (167 days) and moist in all parts from December 1 to April 15. Aridic moisture regime bordering on xeric.

Soil temperature: 53 to 56 degrees F.

Thickness of the A and Btkn horizons: 20 to 30 inches.

Depth to durinodes or weak silica cementation: 22 to 32 inches.

Control section:

Clay content—25 to 30 percent clay.

A horizon:

Hue—10YR, 2.5Y.

Chroma—1 through 3, dry or moist.

Reaction—Moderately or strongly alkaline.

Bt horizon:

Hue—10YR, 2.5Y.

Value—5 through 8 dry, 5 to 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Loam, sandy clay loam or clay loam.

Reaction—Moderately or strongly alkaline.

Effervescence—Strong or violent.

SAR—50 to 200.

Electrical conductivity—4 to 16 mmhos.

Bkq horizon:

Hue—2.5Y, 5Y.

Value—6 through 8 dry, 4 through 6 moist.

Chroma—3 to 4, dry or moist.

Texture—Coarse sandy loam, sandy loam or loam.

Reaction—Moderately or strongly alkaline.

Effervescence—Strong or violent. Some pedons contain segregated gypsum.

C horizon:

Value—7 dry, 5 to 6 moist.

Chroma—3 to 4, dry or moist.

Texture—Loamy coarse sand or sandy loam.

Horsecamp series

The Horsecamp series consists of deep, well drained soils on plateaus. These soils formed in residuum weathered from volcanic rocks. Slopes range from 0 to 9 percent.

Taxonomic class: Fine, smectitic, mesic Aridic Haploxererts

Typical pedon: Horsecamp very cobbly silty clay, located in map unit 244, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 2 inches; brown (7.5YR 5/2) very cobbly silty clay, dark brown (7.5YR 4/2) moist; weak very fine granular and subangular blocky structure; slightly hard, very friable, very sticky and very plastic; common very fine roots; many very fine interstitial pores; 5 percent stones; 30 percent cobbles; 20 percent gravel; vertical cracks 2 to 5 mm wide; neutral (pH 6.8); clear wavy boundary.

Bw—2 to 6 inches; brown (10YR 5/3) silty clay, dark brown (10YR 4/3) moist; moderate medium and coarse prismatic structure parting to moderate fine

and medium angular blocky; hard, very friable, very sticky and very plastic; common very fine and few fine and medium roots; common very fine tubular and interstitial pores; vertical cracks 2 to 5 mm wide; slightly effervescent with disseminated lime; neutral (pH 7.0); clear wavy boundary.

Bss—6 to 27 inches; brown (10YR 5/3) silty clay, dark brown (10YR 4/3) moist; strong coarse and very coarse prismatic structure parting to strong coarse and very coarse angular blocky; very hard, very friable, very sticky and very plastic; few very fine, fine and medium roots on peds; common very fine tubular pores; vertical cracks 5 to 30 mm wide and 7 to 18 cm apart; few intersecting slickensides; few wedge-shaped aggregates tilted 30 to 60 degrees from horizontal; 5 percent fine (2-5 mm) gravel; slightly effervescent with disseminated lime; neutral (pH 7.2); clear wavy boundary.

Bssk—27 to 46 inches; brown (10YR 5/3) silty clay, dark brown (10YR 4/3) moist; moderate coarse and very coarse prismatic structure parting to strong coarse and very coarse angular blocky; very hard, friable, very sticky and very plastic; few very fine and fine roots on peds, few very fine tubular pores; vertical cracks 2 to 5 mm wide; common fine intersecting slickensides; common wedge-shaped aggregates tilted 30 to 60 degrees from horizontal; 5 percent fine (2-5 mm) gravel; strongly effervescent, lime segregated in few fine filaments; slightly alkaline (pH 7.4); abrupt wavy boundary.

R—46 to 50 inches; hard basalt rock with some vertical and horizontal fractures; violently effervescent, lime coatings on the faces of fractured rock. Fractures are 1/4 to 3/4 inches wide and 8 to 12 inches apart.

Type location: About 3.8 miles east of the Big Mud Flat on Smoke Creek Ranch Road and 1.0 mile south of this road; 1,600 feet north and 1,500 feet west of the southeast corner of Sec. 9, T.30 N., R.16 E.

Range in Characteristics:

Soil moisture: Aridic moisture regime bordering on xeric.

Soil temperature: 47 to 53 degrees F.

Solum thickness and depth to a lithic contact: 40 to 60 inches.

Cracks: (1 to 7.5 cm wide) open and close each year and extend as deep as 40 inches or more forming large prisms. The cracks remain open during June through December for about 200 days. Few to many intersecting slickensides and tilted, wedge shaped aggregates occur at some depth between 10 and 40 inches.

Rock fragments: 10 to 35 percent, surface cobbles and stones.

Depth to secondary carbonates: 20 to 35 inches. Some pedons have discontinuous indurated silica and lime cementation at the lithic contact.

A horizon:

Hue—10YR, 7.5YR.

Chroma—2 to 3, dry or moist.

Clay content—Clay or silty clay with a weighted average of 40 to 60 percent clay. The A horizon is cobbly clay, cobbly silty clay, very cobbly silty clay or very cobbly clay.

Rock fragments—20 to 55 percent, mostly cobbles.

Bw horizon:

Rock fragments—0 to 10 percent gravel.

Texture—Silty clay, clay, or clay loam.

Reaction—Neutral through moderately alkaline.

Calcium carbonate equivalent—0 to 3 percent.

Bk horizon:

Effervescence—Slightly to strongly effervescent, and lime is segregated in filaments, seams or threads.

Calcium carbonate equivalent—3 to 8 percent.

Humboldt series

The Humboldt series consists of very deep, poorly drained soils on flood plains. These soils formed in mixed alluvium. Slopes range from 0 to 2 percent.

Taxonomic class: Fine, smectitic, calcareous, mesic Fluvaquentic Endoaquolls

Typical pedon: Humboldt silty clay, located in map unit 247, pasture. (Colors are for dry soils unless otherwise noted).

Ap—0 to 7 inches; grayish brown (10YR 5/2) silty clay, black (10YR 2/1) moist; strong medium and coarse prismatic structure; very hard, friable, very sticky and very plastic; many very fine roots; common very fine tubular pores, moderately alkaline (pH 7.9); clear wavy boundary.

A1—7 to 15 inches; gray (10YR 5/1) silty clay, very dark gray (10YR 3/1) moist; strong medium and coarse prismatic structure that parts to strong medium and coarse angular blocky; very hard, friable, very sticky and very plastic; many very fine roots; many very fine and few fine tubular pores; slightly effervescent with disseminated carbonates; moderately alkaline (pH 8.0); clear wavy boundary.

A2—15 to 21 inches; grayish brown (10YR 5/2) silty clay, dark grayish brown (10YR 4/2) moist, with black (10YR 2/1) moist expd; few fine distinct dark brown

mottles (7.5YR 3/4) moist; moderate medium and coarse prismatic structure that parts to strong medium and coarse angular blocky; hard, friable, very sticky and very plastic; common very fine roots; common very fine and few fine tubular pores; slightly effervescent with disseminated carbonates; moderately alkaline (pH 8.0); clear wavy boundary.

Bk1—21 to 28 inches; grayish brown (2.5Y 5/2) stratified silty clay, dark grayish brown (10YR 4/2) moist with very dark gray (10YR 3/1) moist expd; strong fine, medium and coarse angular blocky structure; hard, friable, very sticky and very plastic; common very fine roots; common very fine and few fine tubular pores; violently calcareous, carbonates segregated in common fine soft filaments and threads; strongly effervescent with disseminated carbonates; moderately alkaline (pH 8.0); clear wavy boundary.

Bk2—28 to 36 inches; pale olive (5Y 6/3) stratified silty clay loam, dark grayish brown (2.5Y 4/2) moist; strong fine and medium angular blocky structure; hard, friable, very sticky and very plastic; common very fine roots; common very fine tubular pores; violently calcareous, carbonates segregated in common fine soft filaments and threads; violently effervescent with disseminated carbonates; moderately alkaline (pH 8.0); clear wavy boundary.

Akb—36 to 48 inches; grayish brown (2.5Y 5/2) stratified silty clay, black (10YR 2/1) moist; moderate fine and medium angular blocky structure; hard, friable, very sticky and very plastic; few very fine roots; common very fine tubular pores; violently calcareous, carbonates segregated in few fine soft filaments and threads; violently effervescent with disseminated carbonates; moderately alkaline (pH 8.0); clear wavy boundary.

Ab—48 to 60 inches; dark gray (10YR 4/1) stratified clay, silty clay and silty clay loam, very dark gray (10YR 3/1) moist and dark grayish brown (10YR 4/2) moist; massive; hard, friable, very sticky and very plastic; few very fine roots; common very fine tubular pores; slightly to strongly effervescent with disseminated carbonates; moderately alkaline (pH 8.0).

Type location: About 1 mile south and 2 miles east of Standish and 1,700 feet south of Alexander Lane; about 50 feet west and 1,700 feet south of the northeast corner of Sec. 27 T.29 N., R.14 E.

Range in Characteristics:

Soil moisture: Usually saturated for one month or more during most years unless drained. Aquic moisture regime.

Soil temperature: 50 to 54 degrees F.

Water table: 0.5 to 2 feet unless drained.

Mollic epipedon thickness: 10 to 24 inches.

Reaction: Slightly alkaline to very strongly alkaline, the higher values being only in sodium affected areas.

Carbonates: Slightly effervescent to strongly effervescent throughout; some strata below 20 inches in some pedons are noneffervescent. The calcium carbonate equivalent is less than 15 percent.

Redoximorphic features: Distinct or prominent iron mottles are in the lower part of the mollic epipedon or immediately below; or if no mottles, reduced matrix chroma is 1 or less.

Other features: Some pedons have stratified very fine sandy loam to fine sand below 30 inches. Buried A horizons common.

Control section:

Clay content—35 to 45 percent.

A horizon:

Hue—10YR, 2.5Y, N.

Value—4 or 5 dry, 6 on surface of some pedons due to deposition, 2 or 3 moist.

Chroma—0 through 2.

Organic matter content—2 to 4 percent organic matter.

B and C horizons:

Hue—10YR, 5GY, N.

Value—6 or 7 dry, 3 through 5 moist. Volcanic ash layers are 8 dry, 6 moist.

Chroma—0 through 3.

Structure—Moderate or strong prismatic or blocky in the upper part; weak medium and coarse subangular blocky structure in the lower part, or it is massive.

Texture—Stratified silty clay loam to clay with minor substrata of silt loam in some pedons.

Carbonates—Few to many very fine to medium lime concretions or soft segregations in some subhorizons.

Remarks

The soils mapped as Humboldt in the area are outside the range for the series. They have higher precipitation than is defined for the series. This difference, however, does not significantly affect use and management.

Hunnton series

The Hunnton series consists of moderately deep, well drained soils on fan remnants. These soils formed in mixed alluvium. Slopes range from 2 to 9 percent.

Taxonomic class: Fine, smectitic, mesic Xeric Argidurids

Typical pedon: Hunnton cobbly sandy loam, located in map unit 250, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 2 inches; grayish brown (10YR 5/2) cobbly sandy loam, very dark grayish brown (10YR 3/2) moist; weak thick and very thick platy structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; many very fine interstitial and vesicular pores; about 2 percent stones, 10 percent cobbles, 15 percent gravel; neutral (pH 6.8); abrupt wavy boundary.

A2—2 to 5 inches; light gray (10YR 7/2) and light brownish gray (10YR 6/2) gravelly fine sandy loam, grayish brown (10YR 5/2) and dark grayish brown (10YR 4/2) moist; moderate very thick platy structure; slightly hard, very friable, slightly sticky, slightly plastic; few very fine and fine roots; many very fine interstitial pores; 5 percent cobbles, 15 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt1—5 to 13 inches; brown (7.5YR 5/4) gravelly clay, dark brown (7.5YR 4/4) moist; moderate fine and medium prismatic structure parting to strong medium and coarse angular blocky; very hard, firm, very sticky, very plastic; common very fine roots along faces of peds; common very fine tubular pores; continuous thin and moderately thick pressure faces; about 5 percent cobbles, 20 percent gravel; neutral (pH 7.2); clear wavy boundary.

Bt2—13 to 19 inches; brown (7.5YR 5/4) gravelly clay, dark brown (7.5YR 4/4) moist; moderate fine and medium prismatic structure parting to moderate fine, medium and coarse angular blocky; very hard, firm, very sticky and very plastic; few fine roots along faces of peds; few very fine tubular pores; many thin and moderately thick clay films on faces of peds and in pores, common pressure faces; 20 percent gravel; slightly alkaline (pH 7.6); clear wavy boundary.

Btk—19 to 22 inches; brown (7.5YR 5/4) gravelly clay, dark brown (7.5YR 4/4) moist; moderate fine and medium angular blocky structure; hard, friable, very sticky and very plastic; few very fine roots; few very fine tubular pores; many thin clay films on faces of peds and in pores; about 20 percent gravel; strongly effervescent, few fine lime filaments; slightly alkaline (pH 7.8); abrupt wavy boundary.

Bkqm—22 to 25 inches; pink (7.5YR 7/4) indurated duripan light brown (7.5YR 6/4) moist; massive; extremely hard, very firm, continuous 2 to 4 inch thick silica laminar cap; cemented gravel and cobbles; many silica and lime coatings on gravel and cobbles;

cementation between gravel and cobbles is indurated; violently effervescent; lime segregated in seams and coatings on gravel and cobbles; slightly alkaline (pH 7.8); clear irregular boundary.

Bqm—25 to 60 inches; pink and reddish yellow strongly cemented duripan, massive, extremely hard, extremely firm, gravel and cobbles cemented with many silica coatings.

Type location: About 5 miles east of Secret Valley; about 600 feet west and 1,200 feet north of the southeast corner of Section 16, T.31 N., R.16 E.

Range in Characteristics:

Soil moisture: Usually dry, moist mid fall through spring, dry from summer through early fall. Aridic moisture regime bordering on xeric.

Soil temperature: 47 to 52 degrees F.

Depth to duripan: 20 to 40 inches.

Depth to lime: 19 to 32 inches.

Other features: Some pedons have a 4 to 11 inch thick continuously and/or discontinuous brittle matrix Bqk or Bq horizon above the duripan.

Control section:

Clay content—40 to 55 percent

Rock fragments—Average 5 to 25 percent

A horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3.

Reaction—Neutral through moderately alkaline.

Bt horizons:

Hue—10YR or 7.5YR.

Value—5 through 7 dry, 3 through 5 moist.

Chroma—2 through 4.

Texture—Clay or gravelly clay.

Clay content—40 to 55 percent.

Rock fragments—Up to 25 percent, mainly pebbles.

Structure—Weak or moderate, very fine to medium subangular or angular blocky or prismatic.

Consistence—Slightly hard to very hard dry; sticky or very sticky and plastic or very plastic, wet.

Reaction—Neutral through moderately alkaline.

Effervescence—Noneffervescent in the upper subhorizons, noneffervescent to strongly effervescent in lower subhorizons.

Other features—Some pedons have a 4 to 7 inch thick loam, silty clay loam or clay loam Bt1 horizon with thin clay films.

Lime and silica features—Some pedons have lime masses and silica concretions in the lower portion

of the horizon. Lower subhorizons have up to 15 percent durinodes in some pedons.

Bqkm horizons:

Value—7 or 8 dry, 4 through 7 moist.
 Chroma—2 or 3 dry, 3 or 4 moist.
 Structure—Massive, or has weak medium to very thick platy structure.
 Other features—Some pedons have strongly silica cemented horizons with 40 to 60 percent pebbles below the indurated duripan.

Hutchley series

The Hutchley series consists of shallow well drained soils on ridges and backslopes of mountains. These soils formed in residuum weathered from basalt. Slopes range from 15 to 30 percent.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Lithic Argixerolls

Typical pedon: Hutchley very stony sandy loam, located in map unit 370, rangeland. (Colors are for dry soils unless otherwise noted). Surface area is covered by 15 percent stones, 10 percent cobbles, and 40 percent gravel.

A—0 to 9 inches; grayish brown (10YR 5/2) very stony sandy loam, very dark grayish brown (10YR 3/2) moist; strong very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and fine pores; many thin clay films on faces of peds; 10 percent stones; 10 percent cobbles; 20 percent gravel; neutral (pH 6.6); abrupt irregular boundary.

Bt—9 to 14 inches; yellow brown (10YR 5/4) very gravelly clay loam, dark yellowish brown (10YR 3/4) moist; strong very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and fine tubular pores; many thin clay films on faces of peds; 50 percent gravel; 10 percent cobbles; neutral (pH 6.6); abrupt irregular boundary.

R—14 to 18 inches; fractured basalt with soil and roots in fractures.

Type location: About 2,000 feet east and 2,100 feet south of the northwest corner of Section 7, T.25 N., R.18 E.

Range in Characteristics:

Soil moisture: Aridic moisture regime bordering on xeric.

Soil temperature: 41 to 47 degrees F.

Thickness of mollic epipedon: 10 to 20 inches.

Depth to bedrock: 10 to 20 inches.

Control section:

Clay content—24 to 35 percent.

Rock fragments—35 to 70 percent.

A horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3 dry or moist.

Reaction—Slightly acid to slightly alkaline.

AB horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3 dry or moist.

Rock fragments—20 to 50 percent gravel, 0 to 10 percent cobbles.

Reaction—Neutral to slightly alkaline.

Bt1 horizon:

Value—4 or 5 dry.

Chroma—2 or 3 dry or moist.

Clay content—24 to 35 percent.

Rock fragments—30 to 40 percent gravel, 5 to 25 percent cobbles, 0 to 20 percent slopes.

Texture—Very gravelly loam, extremely gravelly loam, very gravelly clay loam, very cobbly loam, very cobbly clay loam, very stony sandy clay loam, very cobbly sandy clay loam.

Reaction—Neutral to slightly alkaline

Bt2 horizon:

Value—4 or 5 dry, 3 or 4 moist

Chroma—2 to 4 dry or moist

Clay content—28 to 35 percent

Rock fragments—30 to 40 percent gravel, 20 to 35 percent cobbles, 0 to 10 percent stones

Texture—Very cobbly clay loam, very gravelly clay loam.

Reaction—Neutral to slightly alkaline

Incy series

The Incy series consists of very deep, excessively drained soils on dunes. These soils formed in eolian sands derived from mixed sources. Slopes range from 0 to 30 percent.

Taxonomic class: Mixed, mesic Xeric Torripsamments

Typical pedon: Incy fine sand, located in map unit 252, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 9 inches; pale brown (10YR 6/3) fine sand, brown (10YR 4/3) moist; single grain; loose, very friable, nonsticky and nonplastic; common very fine, fine and coarse roots; many very fine interstitial pores; neutral (pH 7.2).

C—9 to 60 inches; pale brown (10YR 6/3) fine sand, brown (10YR 4/3) moist; single grain; loose, very friable, nonsticky and nonplastic; common very fine, fine and coarse roots; many very fine interstitial pores; neutral (pH 7.2).

Type location: About 250 feet west of the northeast corner of Sec. 35, T.35 N., R.16 E.

Range in Characteristics:

Soil moisture: Usually dry in the moisture control section, moist in winter and spring, dry in summer and fall; aridic moisture regime that borders on xeric.

Soil temperature: 48 to 53 degrees F.

Control section:

Clay content—0 to 5 percent.

Rock fragments—0 to 10 percent pebbles.

A horizon:

Value—5 through 7 dry, 4 or 5 moist.

Chroma—1 through 3, dry or moist.

C horizon:

Value—5 through 7 dry, 4 or 5 moist.

Chroma—1 through 3, dry or moist.

Texture—Fine sand or sand.

Rock fragments—0 to 10 percent.

Reaction—Neutral or slightly alkaline.

Remarks

The soils mapped as Incy in map unit 252 are slightly outside the series range. They have lower mean annual temperatures and a shorter frost-free season. These differences, however, do not significantly affect the use and management.

Indiano series

The Indiano series consists of moderately deep, well drained soils on back slopes of hills, plateaus, and mountains. These soils formed in residuum and

colluvium weathered from volcanic or granitic rock. Slopes range from 2 to 50 percent.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Aridic Argixerolls

Typical pedon: Indiano very stony loam, located in map unit 254, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 3 inches; brown (7.5YR 4/2) very stony loam, very dark brown (10YR 2/2) moist; weak, medium platy structure parting to moderate fine and medium subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, common fine and few medium and coarse roots; many very fine and fine tubular and interstitial pores; 20 percent stones, 10 percent cobbles and 10 percent gravel; slightly acid (pH 6.1); clear wavy boundary.

A2—3 to 7 inches; brown (7.5YR 4/2) gravelly loam, dark brown (7.5YR 3/2) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, few fine and medium roots; many very fine tubular and few fine and medium interstitial pores; 5 percent cobbles and 10 percent gravel; neutral (pH 7.0); clear wavy boundary.

BAt—7 to 11 inches; brown (7.5YR 4/2) cobbly loam, dark brown (7.5YR 3/2) moist; moderate medium and coarse subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine and fine, few medium roots; many very fine, few fine and medium tubular pores; many clay films bridging between mineral grains and films in pores; 10 percent cobbles and 10 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt1—11 to 18 inches; pinkish gray (7.5YR 6/2) gravelly clay loam, brown (7.5YR 4/2) moist; moderate medium and coarse angular blocky structure; hard, friable, sticky and plastic; common very fine, fine and medium roots; common very fine, few fine and medium tubular pores; common moderately thick clay films on faces of peds and in pores; 5 percent cobbles and 10 percent gravel; neutral (pH 7.0); gradual wavy boundary.

Bt2—18 to 27 inches; pinkish gray (7.5YR 6/2) cobbly clay loam, dark brown (7.5YR 4/2) moist; moderate fine and medium angular blocky structure; hard, friable, sticky and plastic; common very fine, fine and medium roots; common very fine, few fine and medium tubular pores; common moderately thick clay films on faces of peds and in pores; 15 percent

cobbles and 10 percent gravel; neutral (pH 7.0); abrupt irregular boundary.

R—27 to 31 inches; hard fractured andesite.

Type location: About 0.6 miles north of Ramhorn Springs Road on old Hwy 395, then 0.5 miles east on dirt road and 100 feet north of this road; about 1,500 feet north and 2,000 feet east of the southwest corner of Sec. 21, T.33 N., R.15 E.

Range in Characteristics:

Soil moisture: Usually dry, moist during winter and spring. Aridic moisture regime bordering on xeric.

Soil temperature: 51 to 54 degrees F.

Mollic epipedon thickness: 7 to 14 inches, and may include the upper Bt horizon.

Depth to bedrock: 20 to 40 inches.

Reaction: Slightly acid or neutral.

Control section:

Percent clay—Averages 20 to 35.

Rock fragments—10 to 35 percent pebbles and cobbles.

A horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3.

Bt horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—2 through 4

Texture—Clay loam, loam, sandy clay loam and gravelly or cobbly clay loam, sandy clay loam, or loam.

Structure—Weak prismatic or weak to moderate subangular blocky structure; or it is massive.

Other features—The underlying bedrock is altered volcanic rock that is commonly weathered in the upper 1 to 4 inches. Some pedons have value of 3 moist in the upper Bt.

Remarks

The soils mapped as Indiano in map unit 253 are slightly outside the range of characteristics. They are weathered from granite and occur at 200 feet below the series elevation range.

Inville series

The Inville series consists of very deep, well drained soils on alluvial fans. These soils formed in alluvium

weathered from basalt and andesite with a strong influence from volcanic ash. Slopes range from 2 to 30 percent.

Taxonomic class: Loamy-skeletal, isotic, frigid Ultic Haploxeralfs

Typical pedon: Inville very gravelly sandy loam, located in map unit 257, forestland. (Colors are for dry soils unless otherwise noted).

A—1 to 3 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark brown (7.5YR 3/2) moist; moderate very fine granular structure; soft, very friable, nonsticky and slightly plastic; common very fine roots; 40 percent gravel; moderately acid (pH 6.0); abrupt smooth boundary.

Bw—3 to 10 inches; strong brown (7.5YR 5/6) very gravelly sandy loam, dark brown (7.5YR 3/4) moist; moderate medium subangular blocky structure; soft, very friable, nonsticky and slightly plastic; common very fine, few medium and coarse roots; many very fine tubular pores; 35 percent gravel; charcoal present; slightly acid (pH 6.5); clear smooth boundary.

Bt—10 to 21 inches; reddish yellow (7.5YR 6/6) very cobbly loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and medium, and few coarse roots; many very fine tubular pores; common thin clay films on faces of peds and in pores; 25 percent cobbles; 25 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

2Bt—21 to 30 inches; brownish yellow (10YR 6/6) extremely gravelly loam, dark yellowish brown (10YR 4/4) moist; moderate medium, subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots continuous thin clay films bridge mineral grains; 15 percent cobbles; 55 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

3Bt—30 to 47 inches; yellowish brown (10YR 5/6) very gravelly loam, dark yellowish brown (10YR 3/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine tubular pores; common thin clay films on faces of peds and in pores; 40 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

3C—47 to 60 inches; reddish yellow (7.5YR 6/6) very gravelly loam, strong brown (7.5YR 4/6) moist; common fine distinct strong brown (7.5YR 5/8) mottles, moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few

very fine roots; many very fine tubular pores; 5 percent cobbles; 50 percent gravel; slightly acid (pH 6.5).

Type location: About 7 miles northeast of Chester and 1.0 mile north of Hwy 36, 400 feet west of Swain Mtn. Road on road 1620, about 1,800 feet west and 1,600 feet south of the northeast corner of Section 33, T.29 N., R.8 E.

Range in Characteristics:

Soil moisture: Usually moist, dry in summer and early fall.

Soil temperature: 44 to 47 degrees F.

Summer soil temperature: 60 to 65 degrees F.

Reaction: Medium acid to slightly acid.

Control section:

Rock fragments—45 to 75 percent.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3.

Bt horizon:

Hue—7.5YR or 5YR, 10YR in lower part.

Value—4, 5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4 matrix, 4 to 6 faces

Texture—Sandy loam, coarse sandy loam, or loam modified by rock fragments.

Remarks

The soils mapped as Inville in map unit 101 are outside the range of the series. They are deep to soft bedrock; and have 0 to 2 percent slopes.

Janile series

The Janile series consists of moderately deep, somewhat excessively drained soils on mountains. These soils formed in material weathered from granite. Slopes range from 30 to 75 percent.

Taxonomic class: Sandy-skeletal, mixed, mesic Dystric Xerorthents

Typical pedon: Janile gravelly loamy coarse sand, located in map unit 154, forestland. (Colors are for dry soils unless otherwise noted). The surface is partially covered by 10 percent boulders.

A1—0 to 4 inches; pale brown (10YR 6/3) bouldery loamy coarse sand, brown (10YR 4/3) moist; weak medium and coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; many very fine interstitial pores; 10 percent boulders on the surface; 30 percent 2 to 5 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

A2—4 to 13 inches thick; light gray (10YR 7/2) very gravelly loamy coarse sand, grayish brown (10YR 5/2) moist; weak medium and coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine, fine, medium and coarse roots; many very fine interstitial pores; 35 percent 2 to 5 mm gravel and 15 percent 5 to 75 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

C1—13 to 19 inches; light yellowish brown (10YR 6/4) very gravelly loamy coarse sand, dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; few very fine, fine, medium and coarse roots; many very fine interstitial pores; few thin colloids in bridges between mineral grains; 25 percent 2 to 5 mm gravel and 25 percent 5 to 75 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

C2—19 to 24 inches; light brownish gray (2.5Y 6/2) extremely gravelly loamy coarse sand, dark grayish brown (2.5Y 4/2) moist; single grain; loose, nonsticky and nonplastic; few very fine, fine, medium and coarse roots; many very fine interstitial pores; 35 percent 2 to 5 mm gravel and 30 percent 5 to 75 mm gravel; neutral (pH 7.0); clear wavy boundary.

Cr—24 to 34 inches; weathered granite.

Type location: About 1.1 miles following a left fork then a right fork along the dirt road which is westbound from Hwy 395 at a point 0.4 mile south of the southern intersection of Lake Crest Road and Hwy 395; about 3.1 miles southeast of Buntingville; 600 feet north and 2,100 feet west of the southeast corner of Sec. 36, T.28 N., R.13 E., MDBM.

Range in Characteristics:

Soil moisture: Usually dry in all parts of the moisture control section from July 15 to November 1 (105 days) and moist in all parts from November 15 to June 1. Xeric moisture regime.

Soil temperature: 47 to 50 degrees F.

Depth to bedrock: 20 to 40 inches.

Reaction: Slightly acid or neutral.

Base saturation: 50 to 60 percent by ammonium acetate.

Rock fragments: 0 to 15 percent boulders on surface.

A horizon:

Value—5 through 7 dry, 3 through 5 moist.

Chroma—2 to 3, dry or moist.

Gravel content—20 to 50 percent.

C1 horizon:

Value—6 to 7 dry, 4 to 5 moist.

Chroma—3 to 4, moist or dry.

Gravel content—50 to 60 percent.

C2 horizon:

Hue—10YR, 2.5Y.

Value—6 through 8 dry, 4 through 6 moist.

Chroma—2 through 6, dry or moist.

Gravel content—40 to 65 percent.

Jauriga series

The Jauriga series consists of deep, well drained soils on mountain back slopes and toeslopes. These soils formed in residuum and colluvium weathered from andesite or basalt. Slopes range from 2 to 30 percent.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Vitrandic Argixerolls

Typical pedon: Jauriga gravelly loam, located in map unit 259, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 3 inches; brown (7.5YR 4/2) gravelly loam, dark brown (7.5YR 3/2) moist; weak medium granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine interstitial pores; 1 percent stones, 1 percent cobbles and 15 percent gravel; neutral (pH 6.8); clear smooth boundary.

A2—3 to 9 inches; brown (7.5YR 4/2) gravelly loam, dark brown (7.5YR 3/2) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, fine and few medium roots; many very fine interstitial and common very fine tubular pores; 1 percent stones, 1 percent cobbles and 15 percent gravel; neutral (pH 6.8); clear wavy boundary.

Bt1—9 to 17 inches; brown (7.5YR 4/2) gravelly loam, dark brown (7.5YR 3/2) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and fine tubular pores; common thin clay films in pores; 1 percent stones, 5 percent cobbles and 15 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt2—17 to 37 inches; brown (7.5YR 4/4) gravelly loam, dark brown (7.5YR 3/4) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and fine tubular pores; common thin clay films on faces of peds and in pores; 1 percent stones, 5 percent cobbles and 15 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt3—37 to 49 inches; brown (7.5YR 5/4) gravelly clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, sticky and plastic; few very fine roots; common very fine and fine tubular pores; common thin clay films on faces of peds and many thin clay films in pores; 5 percent stones, 5 percent cobbles and 15 percent gravel; neutral (pH 7.0); abrupt irregular boundary.

Cr—49 to 60 inches; weathered andesitic tuff soft enough to dig with an auger or tile spade and can be scratched with fingernail.

Type location: About 3.5 miles north of Eagle Lake, about 0.7 mile west of Hwy 139 on first dirt road north of Grasshopper Fire Control Station, and 400 feet south of this road; about 2,030 feet south and 2,440 feet west of the northeast corner of Sec. 28, T.34 N., R.11 E.

Range in Characteristics:

Soil moisture: Usually dry from July 15 to November 1 (105 days) and is moist in all parts from about December 1 to May 1. Xeric moisture regime.

Soil temperature: 47 to 52 degrees F.

Solum thickness and depth to bedrock: 40 to 60 inches.

Mollic epipedon: 11 to 17 inches thick, and in some pedons it includes the upper part of the Bt horizon.

Control section: 20 to 27 percent clay.

Rock fragments—15 to 25 percent.

Reaction—Slightly acid or neutral throughout.

Bulk density—1.2 to 1.4 throughout.

A horizon:

Hue—10YR, 7.5YR.

Value—4 to 5 dry, 3 moist.

Chroma—2 through 4, dry or moist.

Rock fragments—15 to 25 percent, mostly gravel.

Bt1 and Bt2 horizons:

Value—4 to 5 dry, 3 moist.

Chroma—2 through 4, dry or moist.

Texture—Gravelly loam.

Clay content—20 to 27 percent clay.

Rock fragments—15 to 25 percent, mostly gravel.

Bt3 horizon:

Value—5 dry, 3 to 4 moist.
 Chroma—4 through 6, dry or moist.
 Texture—Gravelly clay loam.
 Clay content—27 to 35 percent clay.
 Rock fragments—20 to 30 percent, mostly gravel.

Keddie series

The Keddie series consists of very deep, poorly drained soils on flood plains. These soils formed in mixed alluvium. Slopes range from 0 to 2 percent.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Cumulic Endoaquolls

Typical pedon: Keddie loam, located in map unit 260, pasture. (Colors are for dry soils unless otherwise noted).

A1—0 to 17 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; weak medium prismatic structure parting to moderate medium angular blocky; hard, friable, sticky and plastic; many very fine, common fine and few medium roots; common very fine interstitial pores; 10 percent 2 to 5 mm gravel; neutral (pH 7.0); clear wavy boundary.

A2—17 to 34 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; common fine prominent brownish yellow (10YR 6/6) mottles, dark yellowish brown (10YR 4/6) moist; massive; very hard, friable, sticky and plastic; common very fine and few fine roots; common very fine interstitial pores; 10 percent 2 to 5 mm gravel; neutral (pH 7.0); clear wavy boundary.

Cg1—34 to 43 inches; light gray (10YR 7/2) loam, gray (10YR 5/1) moist; many large prominent yellow (10YR 7/6) mottles, dark yellowish brown (10YR 4/6) moist; massive; very hard, firm, slightly sticky and slightly plastic; few very fine and fine roots; few very fine interstitial pores; 5 percent 2 to 5 mm gravel; neutral (pH 7.0); clear wavy boundary.

Cg2—43 to 50 inches; gray (10YR 6/1) sandy loam, dark greenish gray (5GY 4/1) moist; many large prominent yellow (10YR 7/6) mottles, dark yellowish brown (10YR 4/6) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; no roots; common very fine interstitial pores; neutral (pH 7.0); abrupt wavy boundary.

Cg3—50 to 60 inches; pale brown (10YR 6/3) very gravelly loamy coarse sand, olive gray (5Y 5/2) moist; single grain; loose, nonsticky and nonplastic; no roots;

many very fine interstitial pores; 40 percent 2 to 5 mm gravel and 10 percent 5 to 75 mm gravel; neutral (pH 7.0).

Type location: About 4.0 miles northeast of Westwood on McKenzie Meadows; 1,500 feet south of dirt road, 2.0 miles from the intersection of this dirt road with Hwy 36 at the 101 Ranch; 200 feet south and 300 feet east of the northwest corner of Section 26, T.29 N., R.9 E.

Range in Characteristics:

Soil moisture: These soils are usually saturated during the late winter and spring due to a seasonal water table at a depth of 20 to 40 inches. A wet phase has a seasonal water table at a depth of 0 to 20 inches from December through May. Aquic moisture regime.

Soil temperature: 47 to 50 degrees F.

Summer soil temperature: 60 to 62 degrees F.

Control section:

Texture—Loam, gravelly loam or stratified loam, fine sandy loam, sandy loam, silt loam, and clay loam. When mixed, the average texture is loam or gravelly loam.

Clay content—18 to 27 percent.

Sand content—40 to 50 percent.

Rock fragments—15 to 30 percent gravel.

Mollic epipedon thickness—25 to 34 inches.

Depth to mottles—0 to 15 inches.

Organic carbon content—Decreases irregularly with depth.

A horizon:

Hue—10YR, 2.5Y, N/.

Value—4 to 5 dry, 2 to 3 moist.

Chroma—0 through 4, dry or moist.

Texture—Loam, sandy loam, clay loam or muck.

Rock fragment—0 to 30 percent, mostly gravel.

Reaction—Slightly acid or neutral.

C horizon:

Hue—10YR, 2.5Y, 5Y.

Value—4 to 7 dry, 2 to 5 moist.

Chroma—1 to 6, dry or moist.

Reaction—Slightly acid or neutral.

Other features—Some pedons have buried A horizons at a depth of 39 to 50 inches and have moist color of 10YR 2/1, 2.5Y 2/1 or N2/. Gley colors of 5G 4/2 5GY 4/1 or 4/2 are at a depth of 30 to 46 inches in some pedons. Some pedons have stratified very gravelly loamy coarse sand through very gravelly sandy clay loam below a depth of 40 inches. Silty clay loam and silty clay substratum

phases are recognized that have 27 to 35 percent clay at a depth of 40 to 60 inches.

Remarks

The soils mapped as Keddie taxadjunct in map unit 260 have a mean annual soil temperature of 44 to 46 degrees F, which is lower than the temperature defined in the range for series mapped elsewhere. This difference, however, does not significantly affect their use and management.

Ladd series

The Ladd series consists of very deep well drained soils on fan remnants. These soils formed in alluvium weathered from granite. Slopes range from 0 to 2 percent.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Typic Argixerolls

Typical pedon: Ladd sandy loam, located in map unit 262, rangeland. (Colors are for dry soils unless otherwise noted).

Ap—0 to 8 inches; brown (10YR 4/3) sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium and coarse subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; many very fine, fine, medium and coarse roots; many very fine and fine interstitial pores; 5 percent 2 to 20 mm gravel; slightly acid (pH 6.5); clear smooth boundary.

Bt1—8 to 16 inches; brown (7.5YR 5/4) sandy clay loam, dark brown (10YR 3/3) moist; moderate medium and coarse subangular blocky structure; hard, very friable, sticky and plastic; many very fine, fine, medium and common coarse roots; many very fine tubular pores; common thin clay films bridging mineral grains; 5 percent 2 to 20 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

Bt2—16 to 30 inches; brown (7.5YR 5/4) sandy clay loam, dark brown (7.5YR 4/4) moist; strong medium and coarse angular blocky structure; very hard, very friable, sticky and plastic; many very fine, fine, common medium and coarse roots; many very fine tubular pores; many thin and moderately thick clay films on faces of peds, in pores and bridging mineral grains; 10 percent 2 to 20 mm gravel; neutral (pH 7.0); clear wavy boundary.

Bc1—30 to 39 inches; light brown (7.5YR 6/4) sandy clay loam, dark brown (7.5YR 4/4) moist; moderate medium and coarse angular blocky structure; hard, very friable, sticky and plastic; many very fine, fine,

common medium and coarse roots; many very fine interstitial and common very fine tubular pores; common thin and moderately thick clay films bridging mineral grains; 10 percent 2 to 20 mm gravel; neutral (pH 7.0); clear irregular boundary.

C—39 to 55 inches; light yellowish brown (10YR 6/4) sandy loam, brown (10YR 4/3) moist; common fine and medium dark brown mottles (7.5YR 3/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine interstitial pores; 10 percent 2 to 20 mm gravel; neutral (pH 7.0); clear smooth boundary.

Cg—55 to 72 inches; light gray (10YR 7/2) sandy loam, brown (10YR 4/3) moist; many medium and large distinct strong brown (7.5YR 5/8) and dark brown (7.5YR 3/2) mottles, dark brown (7.5YR 3/4) and 7.5YR 3/2 moist; few fine (1 mm) strata of dark greenish gray (5GY 4/1) moist; massive; hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine interstitial pores; 5 percent 2 to 5 mm gravel; neutral (pH 6.6).

Type location: About 15 miles north of Susanville along Hwy. 139 to Willow Creek Valley to Co. Road 226; then northwest along county road about 1 mile to old school house; 0.1 mile south of old school house along trail; 50 feet south of gate and 200 feet west of trail to site; about 800 feet east and 2,100 feet north of southwest corner of Sec. 16, T.31 N., R.12 E.

Range in Characteristics:

Soil moisture: These soils are usually moist and are moist in some part above the lower boundary of the moisture control section for at least one half the time (cumulative) when the soil temperature at depth of 20 inches exceeds 41 degrees F in most years. These soils are dry for 80 to 90 consecutive days. Xeric moisture regime.

Soil temperature: 47 to 52 degrees F.

Rock fragments: Less than 35 percent rock fragments in the texture control section.

Reaction: Slightly acid or neutral, commonly increasing in alkalinity as depth increases.

Mollic epipedon: 10 to 20 inches thick.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Texture—Silt loam, sandy loam, or loam.

Other features—Upper part of the A horizon has platy structure in some pedons. The A horizon is high in volcanic ash.

Bt horizon:

Value—3 through 5 moist, 4 through 6 dry.

Chroma—2 through 4 moist and dry.

Texture—Sandy clay loam, clay loam, or loam.

Clay content—18 to 35 percent clay. It has few patchy thin to many continuous thin clay films on peds and in pores with moderately thick films in some pedons.

Structure—Weak coarse prismatic to moderate medium prismatic and subangular blocky structure.

C or 2C horizon:

Value—3 through 5 moist, 4 through 6 dry.

Chroma—2 through 4 moist and dry.

Texture—Moderately fine textured, but includes sandy loam and loam. In some pedons the lower part of the 2C horizon is slightly calcareous.

Lakeview series

The Lakeview series consists of very deep, somewhat poorly drained soils on nearly level flood plains. These soils formed in mixed alluvium. Slopes range from 0 to 2 percent.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Cumulic Haploxerolls

Typical pedon: Lakeview loam, located in map unit 264, cropland. (Colors are for dry soils unless otherwise noted).

A1—0 to 5 inches; dark gray (10YR 4/1) loam, black (10YR 2/1) moist; weak medium and fine subangular blocky structure; slightly hard, very friable, sticky and plastic; many very fine and fine roots; many very fine and fine interstitial pores; slightly alkaline (pH 7.8); clear smooth boundary.

A2—5 to 18 inches; dark gray (10YR 4/1) loam, black (10YR 2/1) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, sticky and plastic; common very fine roots; common very fine tubular and few fine interstitial pores; slightly alkaline (pH 7.8); gradual wavy boundary.

Bw1—18 to 26 inches; grayish brown (10YR 5/2) clay loam, very dark brown (10YR 2/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, sticky and plastic; common very fine and few fine roots; many very fine tubular pores; moderately alkaline (pH 8.4); gradual wavy boundary.

Bw2—26 to 32 inches; grayish brown (10YR 5/2) clay loam, very dark grayish brown (10YR 3/2) moist;

moderate medium subangular blocky structure; hard, friable, sticky and plastic; common very fine roots; common very fine tubular pores; moderately alkaline (pH 8.0); gradual wavy boundary.

C—32 to 47 inches; light brownish gray (10YR 6/2) clay loam, very dark grayish brown (10YR 3/2) moist; massive; hard, friable, very sticky and very plastic; few very fine roots; common very fine interstitial pores; moderately alkaline (pH 8.0); gradual wavy boundary.

Ab—47 to 60 inches; dark gray (N 4/0) clay loam, black (N 2/0) moist; strong medium and coarse angular blocky structure; hard, friable, very sticky and very plastic; few very fine roots; common very fine tubular pores; moderately alkaline (pH 8.0); gradual wavy boundary.

Type location: About 750 feet southwest of the intersection of US Hwy 395 and old US Hwy 395 at Spanish Springs Ranch; about 750 feet east and 2,500 feet north of the southwest corner of Sec. 17, T.33 N., R.15 E.

Range in Characteristics:

Soil moisture: Soils are usually moist but are dry in all parts between depths of 4 to 12 inches for 50 to 90 days in the summer. Xeric moisture regime.

Soil temperature: 47 to 52 degrees F.

Solum and mollic epipedon: 20 to 56 inches thick.

Control section:

Clay content—20 to 35 percent.

Texture—15 percent fine sand or coarser.

Reaction—A and upper part of the B horizon are slightly acid to slightly alkaline. The lower part of the B horizon and the C horizon are neutral to slightly alkaline.

Other features—Some pedons lack a B horizon.

A and upper Bt horizon:

Value—3 through 5 dry, 2 moist.

Chroma—0 through 2, dry and moist.

Texture—Loam, clay loam, or silty clay loam in A horizon.

2B horizon:

Hue—N, 10YR or 2.5Y.

Value—4 through 6 dry, 2 or 3 moist.

Chroma—0 through 3, dry and moist.

Texture—Clay loam, loam, or sandy clay loam.

2C horizon:

Hue—2.5YR or 10YR.

Value—3 to 6 dry, 2 to 4 moist.
 Chroma—2 or 3, moist and dry.
 Texture—Sandy clay loam, silt loam, or loam.
 Carbonates—Some pedons have a few scattered mycelial filaments of lime.

Lasco series

The Lasco series consists of deep, well drained soils on mountain back slopes. These soils formed in material weathered from granite. Slopes range from 2 to 50 percent.

Taxonomic class: Coarse-loamy, mixed, superactive, frigid Ultic Haploxeralfs

Typical pedon: Lasco gravelly sandy loam, located in map unit 266, forestland. (Colors are for dry soils unless otherwise noted).

A—0 to 2 inches; brown (7.5YR 5/2) gravelly sandy loam, dark brown (7.5YR 3/2) moist; moderate fine and medium granular structure; soft, very friable, nonsticky and slightly plastic; many very fine and fine roots; many very fine interstitial pores; 15 percent 5 to 75 mm gravel and 10 percent 2 to 5 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

BA—2 to 9 inches; pinkish gray (7.5YR 6/2) gravelly sandy loam, brown (7.5YR 4/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine, many fine, common medium and few coarse roots; 15 percent 5 to 75 mm gravel and 10 percent 2 to 5 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

Bt1—9 to 28 inches; light brown (7.5YR 6/4) gravelly sandy loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine and medium roots; many very fine and common fine interstitial pores; common thin clay films on faces of peds; 15 percent 5 to 75 mm gravel and 10 percent 2 to 5 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

Bt2—28 to 49 inches; brownish yellow (10YR 6/6) gravelly sandy loam, dark yellowish brown (10YR 4/6) moist; moderate medium and coarse angular blocky structure; hard, very friable, slightly sticky and slightly plastic; few very fine, fine and medium roots; many very fine and common fine interstitial pores; many moderately thick clay films on faces of peds and bridging mineral grains; 15 percent 5 to 75 mm gravel

and 10 percent 2 to 5 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

Crt—49 to 60 inches; light brownish gray (2.5Y 6/2) soft weathered granite, dark grayish brown (2.5Y 4/2) moist; few very fine and fine roots in fissures; no pores; many thick light brown (7.5YR 6/4) clay films, brown (7.5YR 4/4) moist, on fracture planes; dug by spade with difficulty; neutral (pH 7.0).

Type location: About 4.7 miles east of Westwood on Hwy 36, across McKenzie Meadows on trail and continue on Beaty and Associates road 2232 to its intersection with road 2230, 2.5 miles north on road 2,230 and 100 feet upslope; about 300 feet east and 1,400 feet north of the southwest corner of Sec. 24, T.29 N., R.9 E.

Range in Characteristics:

Soil moisture: The moisture control section (12 to 37 inches) is dry from August 1 to November 1 (90 days) and is moist in some or all parts the rest of the time.

Xeric moisture regime.

Soil temperature: 44 to 46 degrees F.

Depth to the paralithic contact: 40 to 60 inches.

Base saturation: 30 to 50 percent.

A horizon:

Hue—7.5YR, 10YR.

Chroma—2 to 3, dry or moist.

Texture—Sandy loam, gravelly loam, gravelly sandy loam or gravelly loamy coarse sand.

Clay content—5 to 12 percent clay.

Rock fragments—5 to 35 percent gravel.

BA horizon:

Hue—7.5YR, 10YR.

Value—5 to 6 dry, 3 to 4 moist.

Chroma—2 through 6, dry or moist.

Texture—Sandy loam or gravelly sandy loam.

Rock fragments—5 to 35 percent gravel.

Bt horizon:

Hue—7.5YR, 10YR.

Value—6 to 7 dry, 4 to 5 moist.

Chroma—4 through 6, dry or moist.

Texture—Sandy loam or gravelly sandy loam.

Clay content—10 to 18 percent.

Rock fragments—5 to 35 percent gravel.

Remarks

The soils mapped as Lasco in map unit 266 is outside the range for the series. They are deeper than is

defined for the series. This difference, however, does not significantly affect use and management.

Lieberman series

The Lieberman series consists of very deep, well drained soils on lake terraces. These soils formed in mixed lacustrine sediments. Slopes range from 0 to 2 percent.

Taxonomic class: Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Sodic Haplocalcids

Typical pedon: Lieberman fine sandy loam, located in map unit 270, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 4 inches; light brownish gray (2.5Y 6/2) fine sandy loam, dark grayish brown (2.5Y 4/2) moist; weak thick platy structure; slightly hard, very friable, nonsticky and nonplastic; few fine roots; many very fine interstitial pores; slightly effervescent with disseminated lime; electrical conductivity is 1; sodium adsorption ratio is 4; calcium carbonate equivalent is 3 percent; strongly alkaline (pH 8.6); clear wavy boundary.

A2—4 to 12 inches; light brownish gray (2.5Y 6/2) fine sandy loam, dark grayish brown (2.5Y 4/2) moist; massive; slightly hard, very friable, nonsticky and slightly plastic; few fine and very fine roots; many very fine interstitial pores; strongly effervescent with disseminated lime; electrical conductivity is 1.; sodium adsorption ratio is 2.; calcium carbonate equivalent is 3 percent; strongly alkaline (pH 8.6); clear smooth boundary.

Bkq—12 to 20 inches; pale yellow (2.5Y 7/4) clay loam, light olive brown (2.5Y 5/4) moist; massive; hard, friable, sticky and plastic; few fine roots; many very fine tubular pores; 10 percent 10 to 14 mm durinodes; few fine soft filaments and threads of lime; violently effervescent with disseminated lime; electrical conductivity is 1; sodium adsorption ratio is 10; calcium carbonate equivalent is 20 percent; strongly alkaline (pH 8.8); abrupt smooth boundary.

2C—20 to 20 1/4 inches; white (2.5Y 8/2) stratified discontinuous, fractured tufa lens with sand to fine sand, very pale brown (10YR 7/4) moist; massive; extremely hard, very firm; strongly effervescent; completely dissolved by concentrated HCL; strongly alkaline (pH 8.8); abrupt broken boundary.

3C—20 1/4 to 36 inches; light gray (2.5Y 7/2) fine sand, light brownish gray (2.5Y 6/2) moist; massive; soft,

very friable, nonsticky and nonplastic; few fine roots; many very fine tubular and interstitial pores; strongly effervescent with disseminated lime; electrical conductivity is 4; sodium adsorption ratio is 30; calcium carbonate equivalent is 8 percent; strongly alkaline (pH 8.6); gradual smooth boundary.

4C—36 to 54 inches; light gray (2.5Y 7/2) fine sand, light brownish gray (2.5Y 6/2) moist; massive; soft, very friable, nonsticky and nonplastic; few fine roots; many very fine tubular and interstitial pores; few thin (1 to 5 mm) discontinuous tufa lenses; few 1 to 3 mm iron-manganese concretion; slightly effervescent with disseminated lime; electrical conductivity is 9; sodium adsorption ratio is 170; calcium carbonate equivalent is 10 percent; strongly alkaline (pH 8.6); abrupt smooth boundary.

5C—54 to 72 inches; light gray (2.5Y 7/2) stratified sand and fine sand, light brownish gray (2.5Y 6/2) moist; massive, slightly hard, very friable, nonsticky and nonplastic; no roots; many very fine interstitial pores; common fine faint white (2.5Y 8/2) relict mottles, distinct olive brown (2.5Y 4/4) moist; few thin strata of loam and clay loam, slightly effervescent with disseminated lime; electrical conductivity is 16; sodium adsorption ratio is 50; calcium carbonate equivalent is 11 percent; very strongly alkaline (pH 9.0).

Type location: About 1/4 mile south of the northeast corner of Sec. 22, T.27 N., R.16 E.

Range in Characteristics:

Soil moisture: These soils are dry in all parts of the moisture control section (8 to 16 inches) from April 15 to November 15 (215 days) and moist in all parts from December 15 to March 15. Aridic moisture regime.

Soil temperature: 53 to 56 degrees F.

Depth to the tufa lens and 2C material: 20 to 34 inches.

A horizon:

Hue—10YR, 2.5Y.

Value—6 to 8 dry, 4 to 5 moist.

Chroma—2 to 3, dry or moist.

Texture—Sandy loam or loam.

Reaction—Moderately or strongly alkaline.

Electrical conductivity—0.5 to 2.

SAR—1 to 4.

Calcium carbonate equivalent—3 to 8 percent.

Bkq horizon:

Hue—10YR, 2.5Y.

Value—7 to 8 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.
 Texture—Clay loam, sandy clay loam or loam.
 Clay content—20 to 30 percent clay.
 Reaction—Moderately or strongly alkaline.
 Carbonates—Secondary carbonates range from few to many, filaments and threads or soft masses.
 Durinodes—2 to 15 percent.
 Electrical conductivity—1 to 5.
 SAR—5 to 15.
 Calcium carbonate equivalent—15 to 25 percent.

3C horizon:

Hue—2.5Y, 5Y.
 Value—7 dry, 4 through 6 moist.
 Chroma—2 through 4, dry or moist.
 Effervescence—Slightly to violently effervescent.
 Electrical conductivity—4 to 16.
 SAR—8 to 170.
 Calcium carbonate equivalent—7 to 11 percent.

Lodico series

The Lodico series consists of moderately deep, well drained soils formed in residuum and colluvium weathered from basalt and andesite. Lodico soils are on lava plateaus. Slopes range from 2 to 9 percent.

Taxonomic class: Fine, smectitic, mesic Xeric Paleargids

Typical pedon: Lodico very cobbly silt loam, located in map unit 272, rangeland. (Colors are for dry soils unless otherwise noted). Surface area is covered by 30 percent cobbles, 20 percent gravel, and 2 percent stones.

A—0 to 3 inches; light brownish gray (10YR 6/2) very cobbly silt loam, very dark grayish brown (10YR 3/2) moist; moderate thick and very thick platy structure; hard, very friable, sticky and plastic; common very fine roots; many very fine interstitial pores; 2 percent stones, 30 percent cobbles and 20 percent gravel; neutral (pH 7.0); abrupt wavy boundary.

Bt1—3 to 5 inches; brown (10YR 5/3) gravelly silty clay, dark brown (7.5YR 3/2) moist; moderate very fine and fine angular blocky structure; hard, very friable, very sticky and very plastic; common very fine and few fine and medium roots; few very fine tubular pores; 10 percent cobbles, 15 percent gravel; many thin and moderately thick clay films on faces of peds and in pores; neutral (pH 7.0); clear wavy boundary.

Bt2—5 to 11 inches; brown (10YR 5/3) clay, dark brown (7.5YR 3/4) moist; moderate medium and coarse

prismatic structure parting to moderate medium and coarse angular blocky; very hard, friable, very sticky and very plastic; few very fine and fine roots; few very fine tubular pores; 5 percent gravel; thin and moderately thick clay films on faces of peds and in pores; neutral (pH 7.0); clear wavy boundary.

Bt3—11 to 17 inches; brown (7.5YR 5/4) clay, dark brown (10YR 4/3) moist; weak medium and coarse prismatic structure parting to moderate medium and coarse angular blocky; very hard, very friable, very sticky and very plastic; few very fine roots; common very fine tubular pores; 10 percent gravel; many thin and moderately thick clay films on faces of peds and in pores; slightly alkaline (pH 7.5); clear wavy boundary.

Btk—17 to 23 inches; brown (7.5YR 5/4) clay, dark brown (7.5YR 4/4) moist; weak medium and coarse angular blocky structure; hard, very friable, sticky and plastic; few very fine roots; few very fine tubular pores; 10 percent cobbles; common thin carbonates coat on undersides of cobbles; common thin clay films on faces of peds and in pores; slightly alkaline (pH 7.8); abrupt irregular boundary.

R—23 inches; hard basalt rock with pockets of weathered rock in the upper part soft enough to cut with a knife; many carbonates coatings in some fractures and in weathered areas. Discontinuous silica coatings near upper boundary and in fractures.

Type location: About 25 miles northeast of Susanville in Secret Valley; about 3.7 miles east on Shinn Ranch Road from its intersection with U.S. Highway 395 and Karlo Road and 30 feet south of trail; about 350 feet west and 2,500 feet south of the northeast corner of section 32, T.32 N., R.16 E.

Range in Characteristics:

Soil temperature: 48 to 52 degrees F.

Soil moisture: Usually moist in all parts from December 1 to May 1. It is dry in all parts from June 1 to November 15 (168 days). Aridic moisture regime bordering xeric.

Solum thickness and depth to bedrock: 20 to 30 inches.

Clay content: There commonly is a 20 to 25 percent increase in absolute clay content within 1 inch between the A and Bt horizons.

Rock fragments: 50 to 60 percent on surface, mostly cobbles and gravel.

A horizon:

Chroma—2 to 3, dry and moist.

Clay content—18 to 25 percent.

Rock fragments—50 to 60 percent, mostly cobbles and gravel.

Bt horizon:

Hue—10YR, 7.5YR.
 Value—5 to 6 dry, 3 to 4 moist.
 Chroma—5 to 6 dry, 3 to 4 moist.
 Texture—Clay, silty clay.
 Clay content—40 to 50 percent.
 Rock fragments—5 to 25 percent, mostly gravel.

Longcreek series

The Longcreek series consists of shallow, well drained soils on plateaus and mountains. These soils formed in residuum and colluvium weathered from volcanic rock. Slopes range from 2 to 60 percent.

Taxonomic class: Clayey-skeletal, smectitic, mesic
 Lithic Argixerolls

Typical pedon: Longcreek very cobbly loam, located in map unit 273, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 3 inches; dark grayish brown (10YR 4/2) very cobbly loam, very dark brown (10YR 2/2) moist; moderate fine and medium granular structure; slightly hard, very friable, sticky and plastic; common very fine and fine roots; many very fine and fine tubular and interstitial pores; 3 percent stones; 25 percent cobbles and 20 percent gravel; neutral (pH 7.0); clear smooth boundary.

BA1—3 to 7 inches; brown (7.5YR 4/2) very cobbly clay loam, dark brown (7.5YR 3/2) moist; moderate medium angular blocky structure; hard, friable, sticky and plastic; common very fine and fine and few medium roots; many very fine and fine tubular pores; few thin clay films bridging mineral grains; 30 percent cobbles and 15 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt1—7 to 12 inches; brown (7.5YR 4/2) very cobbly clay, dark brown (7.5YR 3/2) moist; strong fine and medium angular blocky structure; very hard, friable, very sticky and very plastic; common very fine, few fine and medium roots; common very fine and fine tubular pores; 25 percent cobbles and 15 percent gravel; common pressure faces on peds; neutral (pH 7.0); gradual wavy boundary.

Bt2—12 to 18 inches; light brown (7.5YR 6/4) very cobbly clay, dark brown (7.5YR 4/4) moist; strong medium and coarse angular blocky structure; very hard, friable, very sticky and very plastic; common very fine and few fine and medium roots, mostly along or on peds; common very fine and fine and few medium tubular pores; 25 percent cobbles and 15

percent gravel; rock fragments have thin clay film coatings; common pressure faces; neutral (pH 7.0); abrupt irregular boundary.

R—18 inches; hard fractured andesite with some material between cracks and many clay film coatings on fractures.

Type location: Near the road at Brubeck Springs and the little mud flat; about 0.75 mile north of Brubeck Springs and 0.75 mile west of that road on a northeast facing slope; about 0.5 mile northwest of Horesecamp Reservoir; about 750 feet north and 500 feet west of the southeast corner of Sec. 28, T.30 N., R.16 E.

Range in Characteristics:

Soil moisture: Usually dry in all parts of the moisture control section from early June through mid November (167 days). Aridic moisture regime bordering on xeric

Soil temperature: 47 to 53 degrees F.

Solum thickness and depth to bedrock: 10 to 20 inches.

Mollic epipedon: 7 to 14 inches thick including the BA1 and the upper part of the Bt1 horizon.

Reaction: Slightly acid or neutral.

A horizon:

Hue—10YR, 7.5YR.

Value—4 to 5 dry, 2 to 3 moist.

Chroma—2 through 4, dry or moist.

Texture—Very cobbly loam, very stony loam extremely stony loam, gravelly loam, and cobbly loam.

Rock fragments—40 to 60 percent.

Structure—Upper 2 or 3 inches is moderate or strong medium or fine granular or weak thin to thick platy.

The lower part of the A horizon is moderate or strong, fine or medium, angular or subangular, blocky structure.

Organic matter content—1 to 4 percent.

Bt horizon:

Hue—10YR, 7.5YR, 5YR.

Value—4 through 6 dry, 3 to 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Very cobbly clay, very stony clay, very cobbly silty clay, very cobbly clay loam or very gravelly clay loam.

Clay content—35 to 50 percent.

Rock fragments—35 to 55 percent, mostly cobbles.

Reaction—Neutral or slightly alkaline.

Structure—Strong or moderate medium angular or subangular blocky in the upper part and strong

medium and coarse angular blocky or is weak or strong fine to coarse prismatic parting to strong or moderate fine to coarse angular blocky in the lower part.

Loomis series

The Loomis series consists of shallow, well drained soils on plateaus and mountains. These soils formed in residuum and colluvium weathered from basalt. Slopes range from 5 to 30 percent.

Taxonomic class: Clayey-skeletal, smectitic, mesic Lithic Xeric Haplargids

Typical pedon: Loomis very cobbly loam, located in map unit 275, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 2 inches; light brownish gray (10YR 6/2) very cobbly loam, very dark grayish brown (10YR 3/2) moist; moderate medium and thick platy structure; slightly hard, very friable, sticky and plastic; common very fine roots; many very fine vesicular pores; 10 percent stones, 30 percent cobbles and 20 percent gravel; neutral (pH 6.6); clear wavy boundary.

Bt1—2 to 6 inches, brown (10YR 5/3) very gravelly clay loam, dark brown (10YR 3/3) moist; moderate fine and medium blocky structure; very hard, very friable, sticky and plastic; common very fine, fine and medium and few coarse roots; many very fine tubular pores; many thin clay films on faces of peds and in pores; 10 percent cobbles and 25 percent gravel; neutral (pH 6.6); clear wavy boundary.

Bt2—6 to 11 inches; yellowish brown (10YR 5/4) very gravelly clay, dark brown (10YR 4/3) moist; weak fine and medium prismatic structure parting to moderate fine and medium angular blocky; very hard, friable, very sticky and very plastic; common very fine, fine and medium roots; common very fine tubular pores; many thin and moderately thick clay films on faces of peds and in pores; 5 percent cobbles and 30 percent gravel; neutral (pH 6.6); abrupt wavy boundary.

R—11 inches; hard basalt with upper 2 inches fractured into stone and cobble size. Massive. Some rock fragments in upper 2 inches weathered. Many thin strongly effervescent lime and silica coatings along some fractures.

Type location: About 1,000 feet east and 200 feet north of the southwest corner of Sec. 30, T.32 N., R.16 E.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dry from June through October. Aridic moisture regime that borders on xeric.

Soil temperature: 47 to 52 degrees F.

Ochric epipedon thickness: 1 to 3 inches.

Depth to bedrock: 8 to 14 inches to a lithic contact.

Control section:

Clay content—35 to 55 percent.

Rock fragments—35 to 75 percent, up to 40 percent of which may be cobbles. Lithology of fragments are typically volcanic rocks such as rhyolite.

Reaction—Neutral or slightly alkaline.

A horizon:

Value—5 through 7 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

Bt horizons:

Value—5 through 6 dry, 3 through 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Very gravelly clay loam, very cobbly clay loam, very gravelly clay, very cobbly clay, or extremely cobbly clay.

Clay content—27 to 40 percent in the upper part and 40 to 60 percent in the lower part.

Rock fragments—35 to 75 percent with up to 40 percent cobbles.

Structure—Moderate subangular blocky, angular blocky, or weak to strong prismatic.

Consistence—Soft to very hard dry, very friable to firm moist, and moderately sticky or very sticky and moderately plastic or very plastic wet.

Other features—Some pedons have few fine gypsum filaments or silica platelets in the lower subhorizon; Some pedons have up to 15 percent stones on the surface.

Madeline series

The Madeline series consists of shallow, well drained soils on mountain and plateau back slopes. These soils formed in residuum and colluvium weathered from basalt or andesite. Slopes range from 9 to 50 percent.

Taxonomic class: Clayey, smectitic, frigid Lithic Argixerolls

Typical pedon: Madeline very stony loam, located in map unit 278, rangeland. (Colors are for dry soil unless otherwise noted).

A1—0 to 2 inches; brown (10YR 5/3) very stony loam, very dark grayish brown (10YR 3/2) moist; weak very fine and fine platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine vesicular and interstitial pores; 25 percent stones, 20 percent cobbles and 15 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

A2—2 to 5 inches; dark grayish brown (10YR 4/2) very stony loam, very dark brown (10YR 2/2) moist; weak very fine platy structure; slightly hard, very friable, sticky and plastic; common very fine and fine roots; many very fine interstitial pores; 11 percent stones, 5 percent cobbles and 20 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt1—5 to 9 inches; brown (10YR 5/3) gravelly clay loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, sticky and very plastic; common very fine and few fine roots; common very fine tubular pores; common thin and moderately thick clay films on faces of peds and in pores; 25 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt2—9 to 16 inches; brown (10YR 5/3) gravelly clay, very dark grayish brown (10YR 3/2) moist; moderate medium and coarse angular blocky structure; hard, very friable, very sticky and very plastic; few very fine and fine roots; common very fine tubular pores; many thin and moderately thick clay films on faces of peds and in pores; 25 percent gravel; neutral (pH 7.0); abrupt wavy boundary.

R—16 to 20 inches; hard basalt, many moderately thick and thick clay films at upper boundary and clay in fractures; few fine and medium roots in fractures.

Type location: About 3.4 miles west of Shinn Ranch on the road to Karlo, then 1.7 miles east from the junction to the bottom of the draw, then 0.6 miles up the draw and 700 feet up the west-facing slope; 1,000 feet south and 1,500 feet west of the northeast corner of Sec. 14, T.32 N., R.16 E.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry from July through October. Aridic soil moisture regime that borders xeric.

Soil temperature: 43 to 47 degrees F.

Mollic epipedon thickness: 7 to 15 inches and includes part or all of argillic horizon.

Depth to bedrock: 10 to 20 inches.

Control section:

Clay content—35 to 60 percent.

Rock fragments—5 to 35 percent.

Other features—4 to 8 inch thick BA horizon is present in some pedons.

A horizon:

Hue—5YR through 10YR, moist and dry.

Value—4 or 5 dry, 2 or 3 moist. A thin subhorizon may be 6 dry and 4 moist.

Chroma—1 through 3, dry and moist.

Reaction—Slightly acid to slightly alkaline.

Bt horizons:

Hue—5YR through 10YR, moist and dry.

Value—3 through 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry and moist.

Texture—Clay, sandy clay, or clay loam; subhorizons in the upper part are sandy clay loam in some pedons.

Clay content—35 to 60 percent clay; thin upper subhorizons are 25 to 35 percent in some pedons.

Rock fragments—5 to 35 percent, cobbles, stones, and pebbles.

Structure—Weak to strong, prismatic, subangular or angular blocky.

Consistence—Slightly hard to extremely hard dry, very friable to very firm moist; slightly hard and very friable consistence typically in upper subhorizons only.

Reaction—Slightly acid to slightly alkaline.

R horizon:

Other features—The upper one or two inches in some pedons is weathered.

Mahala series

The Mahala series consists of moderately deep, well drained soils that formed in a thin loess mantle over residuum derived from tuff. These soils are on plateau summits. Slopes are 0 to 9 percent. The mean annual precipitation is about 11 inches, and the mean annual air temperature is about 47 degrees F.

Taxonomic class: Fine, smectitic, mesic Vertic Paleargids

Typical pedon: Mahala very cobbly silt loam, located in map unit 245, rangeland. (Colors are for dry soils unless otherwise noted). Surface area is covered by 2 percent stones; 40 percent cobbles; 5 percent gravel

A1—0 to 1 inch; gray (10YR 5/1) very cobbly silt loam, very dark grayish brown (10YR 3/2) moist; moderate thin platy structure; slightly hard, very friable, slightly

sticky and slightly plastic; few very fine roots; common very fine interstitial pores; 40 percent cobbles; neutral (pH 6.8); abrupt smooth boundary.

A2—1 to 3 inches; gray (10YR 6/1) very cobbly silt loam, dark grayish brown (10YR 4/2) moist; moderate thin platy structure; hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine interstitial and few very fine vesicular pores; 40 percent cobbles; neutral (pH 6.8); abrupt smooth boundary.

2Btss—3 to 16 inches; brown (10YR 5/3) clay, dark brown (10YR 4/3) moist; thin coatings of light gray (10YR 7/1) sand grains on tops of columns; moderate medium columnar structure; extremely hard, firm, very sticky and very plastic; common very fine and fine roots in the upper 5 inches of the horizon and few very fine, fine, and medium roots in the lower part; few very fine tubular pores; many pressure faces; few slickensides 1/2 to 1 millimeter thick; many thin and moderately thick clay films in pores; neutral (pH 7.0); gradual smooth boundary.

2Bt—16 to 26 inches; brown (10YR 5/3) clay, dark brown (10YR 4/3) moist; moderate medium prismatic structure parting to moderate medium angular blocky; hard, friable, very sticky and very plastic; few very fine and fine roots; common very fine tubular pores; many pressure faces; many moderately thick and thin clay films in pores; slightly alkaline (pH 7.4); abrupt smooth boundary.

2Btk—26 to 36 inches; pale brown (10YR 6/3) silty clay loam, brown (10YR 5/3) moist; moderate fine and medium subangular blocky structure; hard, very friable, sticky and very plastic; few very fine roots; few very fine tubular pores; many thin and common moderately thick clay films on faces of peds; common fine lime filaments or threads; slightly effervescent matrix but strongly effervescent filaments and threads; moderately alkaline (pH 8.0); abrupt smooth boundary.

2Cr—36 to 46 inches; soft, weathered tuff with few thin lime coatings in fractures.

Type location: 100 feet north and 100 feet east of the southwest corner of Sec. 32, T.34 N., R.18E.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry late June through October. Aridic moisture regime bordering on xeric.

Soil temperature: 47 to 50 degrees F.

Depth to carbonates: 14 to 30 inches.

Depth to weathered bedrock: 20 to 40 inches.

Other features: A clay increase of 15 percent or more occurs within a distance of 1 inch between the E and 2Bt1 horizon. Linear extensibility of the soil is 6 centimeters or more.

Control section:

Clay content—40 to 60 percent average.

Rock fragments—0 to 20 percent, mainly pebbles.

Reaction—Neutral to moderately alkaline, normally increasing with depth.

A horizon:

Value—5 through 7 dry, 3 or 4 moist.

Chroma—1 through 3.

Other features—Some pedons have thin AB horizons.

Bt horizon:

Value—5 or 6 dry, 4 through 6 moist.

Chroma—2 through 4 dry, 3 or 4 moist.

Texture—Clay or gravelly clay.

Structure—Weak to strong, medium to coarse prismatic, columnar subangular blocky or angular blocky.

Other features—Bleached sand grains commonly cap prisms. Stress surfaces are common to many in some part of most pedons.

Btk horizon:

Value—6 or 7 dry, 5 or 6 moist.

Chroma—2 through 4.

Texture—Clay or clay loam with gravelly clay loam, or silty clay loam common in some pedons.

Reaction—Slightly alkaline or moderately alkaline.

Visible lime accumulation—Disseminated but may include filaments or threads in some pedons.

Cr horizon:

Other features—Few or common, fine or medium, lime coats or soft masses and threads on fracture planes.

Effervescence—Noneffervescent to slightly effervescent, may be strongly effervescent in areas of visible carbonate accumulation.

Massack series

The Massack series consists of very deep, poorly drained soils on flood plains. These soils formed in alluvium mostly from granite. Slopes range from 0 to 2 percent.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Cumulic Endoaquolls

Typical pedon: Massack loam, located in map unit 280, pasture. (Colors are for dry soils unless otherwise noted).

A1—0 to 5 inches; dark grayish brown (10YR 4/2) loam, very dark gray (10YR 3/1); strong fine and medium angular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine interstitial pores; neutral (pH 7.0); clear wavy boundary.

A2—5 to 23 inches; dark grayish brown (10YR 4/2) loam, very dark gray (10YR 3/1); moderate medium and coarse angular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine interstitial pores; neutral (pH 7.3); clear wavy boundary.

A3—23 to 33 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; moderate medium and coarse angular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine interstitial pores; neutral (pH 7.3); clear wavy boundary.

Cg1—33 to 42 inches; light brownish gray (2.5Y 6/2) stratified fine sandy loam, dark grayish brown (2.5Y 4/2) moist; common fine prominent yellowish brown (10YR 5/4) mottles, dark yellowish brown (10YR 3/4) moist; few fine prominent light gray (5Y 7/1) mottles, dark greenish gray (5GY 4/1) moist; massive; slightly hard, very friable, nonsticky and slightly plastic; common very fine roots; common very fine interstitial pores; neutral (pH 7.3); abrupt smooth boundary.

Cg2—42 to 60 inches; light brownish gray (2.5Y 6/2) stratified sandy loam, dark grayish brown (2.5Y 4/2) moist; common medium prominent light gray (5Y 7/1) mottles, dark gray (5Y 4/1) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine interstitial pores; 10 percent 2 to 5 mm gravel; neutral (pH 7.0).

Type location: About 2.3 miles northwest of Janesville in Elysian Valley; 1,000 feet south of Indians Road at a point 1,500 feet west of its intersection with Elysian Valley Road; 700 feet north and 2,200 feet west of the southeast corner of Section 1, T.28 N., R.12 E.

Range in Characteristics:

Soil moisture: Usually saturated during the late winter and spring due to a seasonal water table at a depth of 12 to 30 inches. Aquic moisture regime.

Soil temperature: 47 to 50 degrees F.

Control section:

Texture—Stratified loam, very fine sandy loam, fine sandy loam, sandy loam, or loamy sand that when mixed, is loam or sandy loam.

Clay content—12 to 18 percent.

Thickness of the mollic epipedon—24 to 54 inches.

Depth to redoximorphic features—0 to 35 inches.

A horizon:

Hue—10YR, 2.5Y, N.

Value—4 to 5 dry, 3 moist.

Chroma—0 to 3, dry or moist.

Reaction—Slightly acid or neutral.

Texture—Sandy loam, fine sandy loam, very fine sandy loam or loam.

C and Cg horizon:

Hue—10YR, 2.5Y, 5Y.

Value—6 through 7 dry, 3 through 5 moist.

Chroma—1 through 4, dry or moist.

Texture—Stratified sand, loamy sand, loamy fine sand, sandy loam, fine sandy loam, very fine sandy loam, or loam.

Reaction—Slightly acid or neutral.

Mazuma series

The Mazuma series consists of very deep, well drained soils on lake plains. These soils formed in mixed alluvium and lacustrine sediments. Slopes range from 0 to 2 percent.

Taxonomic class: Coarse-loamy, mixed, superactive, calcareous, mesic Typic Torriorthents

Typical pedon: Mazuma fine sandy loam, located in map unit 282, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 3 inches; light gray (2.5Y 7/2) fine sandy loam, dark grayish brown (2.5Y 4/2) moist; moderate thick and very thick platy structure; soft, very friable, nonsticky and nonplastic; common very fine roots; many very fine interstitial and vesicular pores; 5 to 10 percent 2 to 5 mm gravel; moderately alkaline (pH 8.0); abrupt wavy boundary.

A2—3 to 7 inches; very pale brown (10YR 7/3) fine sandy loam, dark brown (10YR 4/3) moist; weak very thick platy structure; hard, friable, slightly sticky and slightly plastic; common very fine and few fine roots; many very fine interstitial and common very fine vesicular pores; 5 to 10 percent 2 to 5 mm gravel; moderately alkaline (pH 8.0); clear wavy boundary.

Bk1—7 to 12 inches; very pale brown (10YR 7/3) sandy loam, dark brown (10YR 4/3) moist; weak fine and medium subangular blocky structure; slightly hard; very friable, slightly sticky and slightly plastic; common very fine and few fine and medium roots; common very fine tubular and interstitial pores; 5 to 10 percent 2 to 5 mm gravel; strongly effervescent with disseminated lime and lime segregated in few fine filaments; strongly alkaline (pH 8.5); clear wavy boundary.

Bk2—12 to 19 inches; light gray (2.5Y 7/2) sandy loam, dark brown (10YR 4/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine, fine and medium roots; common very fine interstitial and few very fine tubular pores; 5 to 10 percent 2 to 5 mm gravel; strongly effervescent with disseminated lime and lime segregated in few fine filaments, strongly alkaline (pH 8.5); clear wavy boundary.

Bkq1—19 to 30 inches; very pale brown (10YR 7/3) sandy loam, dark brown (10YR 4/3) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; 10 to 15 percent 2 to 5 mm gravel, gravelly lenses have 20 to 30 percent gravel, 8 percent 10 to 30 mm hard, firm durinodes; strongly effervescent with disseminated lime and lime segregated in common fine filaments; strongly alkaline (pH 8.5); gradual smooth boundary.

Bkq2—30 to 72 inches; very pale brown (10YR 7/3) sandy loam, dark brown (10YR 4/3) moist; massive; hard, friable, slightly sticky and slightly plastic; common very fine tubular pores; 12 percent 2 to 5 mm gravel, gravelly lenses have 20 to 30 percent gravel; 12 percent 10 to 30 mm hard, firm durinodes; common thin silica coatings bridging mineral sand grains; strongly effervescent with disseminated lime and lime segregated in common fine filaments; strongly alkaline (pH 8.5).

Type location: About 1,400 feet west and 2,000 feet south of the northeast corner of Sec. 13, T.28 N., R.16 E.

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in winter and spring, dry from summer to mid-fall. Typical aridic (torric) moisture regime.

Soil temperature: 53 to 57 degrees F.

Salinity (EC): 2 to 32 mmhos/cm.

Sodicity (SAR): 13 to 100.

Control section:

Clay content—5 to 15 percent;

Texture—Fine sand or coarser content: more than 35 percent;

Rock fragments—Few strata have up to 25 percent pebbles.

A horizons:

Hue—10YR or 2.5Y.

Value—5 through 7 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Reaction—Moderately alkaline to very strongly alkaline.

Bk horizon:

Hue—10YR or 2.5Y.

Value—5 through 7 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Structure—Subangular blocky, platy, or it is massive.

Consistence—Slightly hard or hard, dry.

Identifiable secondary carbonates—Occurs as few filaments or coats on faces of peds.

Calcium carbonate equivalent—1 to 10 percent.

Bkq horizons:

Hue—10YR or 2.5Y.

Value—5 through 7 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Stratified sandy loam, fine sandy loam, very fine sandy loam and silt loam with some pedons containing thin strata of clay loam and strata up to 12 inches thick of coarse sand, very coarse sand, fine sand or loamy sand.

Structure—Subangular blocky or platy, or they are single grain or massive.

Consistence—Soft through hard, dry or it is loose.

Reaction—Moderately alkaline to very strongly alkaline.

Calcium carbonate equivalent—1 to 10 percent.

Other features—Few fine or medium, ground water-induced, relict concretions of calcium carbonate may be in any horizon; strongly contrasting lacustrine silts and clays occur below 40 inches in some pedons; salt crystals and relict redox concentrations are in some pedons in lower subhorizons.

McConnel series

The McConnel series consists of very deep, somewhat excessively drained soils on fan remnants and inset fans. These soils formed in mixed alluvium and lacustrine sediments. Slopes range from 2 to 15 percent.

Taxonomic class: Sandy-skeletal, mixed, mesic Xeric Haplocambids

Typical pedon: McConnel gravelly fine sandy loam, located in map unit 149, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 3 inches; light brownish gray (10YR 6/2) gravelly fine sandy loam, dark grayish brown (10YR 4/2) moist; moderate medium and thick platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; common very fine tubular and many very fine and common fine interstitial pores; 30 percent gravel; moderately alkaline (pH 8.0); clear wavy boundary.

Bk—3 to 11 inches; light gray (10YR 7/2) stratified gravelly fine sandy loam, dark grayish brown (10YR 4/2) moist; strong thick platy structure; hard, friable, slightly sticky and slightly plastic; common medium and few very fine and fine roots; many very fine interstitial and common very fine tubular pores; 20 percent gravel; underside of all rock fragments and all surfaces of some rocks have thin lime coatings; moderately alkaline (pH 8.0); clear wavy boundary.

2Bk1—11 to 21 inches; light brownish gray (10YR 6/2) stratified extremely gravelly coarse sandy loam, brown (10YR 4/3) moist; massive; hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; common very fine interstitial pores; 20 percent cobbles; 50 percent gravel; underside of all rock fragments and all surface of some rock fragments have thin lime coatings; slightly calcareous, lime segregated in few fine seams; slightly effervescent with disseminated lime; moderately alkaline (pH 8.0); clear wavy boundary.

3Bk2—21 to 28 inches; very pale brown (10YR 7/4) stratified very gravelly loamy coarse sand, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine and few fine and medium roots; common very fine interstitial pores; 10 percent cobbles; 40 percent gravel; underside of all rock fragments and all surfaces of some rocks have thin lime coatings; slightly calcareous, lime segregated in few fine seams; slightly effervescent with disseminated lime; moderately alkaline (pH 8.0); clear wavy boundary.

3C—28 to 60 inches; pale brown (10YR 6/3) stratified extremely gravelly coarse sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; many very fine roots; common very fine interstitial pores; 10 percent cobbles; 60 percent gravel; underside of all rock fragments and surfaces of some rocks have thick lime coatings; violently effervescent with disseminated lime; moderately alkaline (pH 8.0).

Type location: About 1.4 miles east of Wendel turnoff on Wendel Road and 0.5 mile north of this road;

about 3,000 feet north and 3,000 feet east of the southwest corner of Sec. 20, T.29 N., R.16 E.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dry June through October. Aridic moisture regime bordering on xeric.

Soil temperature: 50 to 54 degrees F.

Depth to 2Bk1 horizon: 10 to 20 inches.

Control section:

Clay content—Averages up to 5 percent.

Rock fragments—50 to 80 percent, mainly pebbles.

A horizon:

Hue—10YR or 2.5Y.

Value—5 or 6 dry, 3 or 4 moist (5 dry and 3 moist only in the upper 3 inches).

Chroma—1 through 3.

Reaction—Neutral to moderately alkaline.

Bw horizon:

Hue—10YR or 2.5Y.

Value—5 through 7 dry, 3 through 5 moist.

Chroma—2 through 4 (1 if dark sand grains are present).

Texture—Loam, sandy loam, fine sandy loam.

Structure—Very fine to medium granular or subangular blocky or it is massive.

Reaction—Neutral to moderately alkaline.

Bk and C horizons:

Hue—10YR or 2.5Y.

Value—5 through 7 dry, 3 through 6 moist.

Chroma—2 through 4 (1 if dark sand grains are present).

Texture—Stratified very gravelly sandy loam to extremely gravelly coarse sand.

Structure—Single grain or massive, subangular blocky in subhorizons of some pedons.

Consistence—Loose to slightly hard, dry; loose to friable, moist.

Reaction—Slightly alkaline to very strongly alkaline.

Calcium carbonate equivalent—Less than 5 percent.

McDermott series

The McDermott consists of very deep, well drained soils on lake terraces. These soils formed in mixed lacustrine deposits. Slopes range from 0 to 5 percent slopes.

Taxonomic class: Fine-silty, mixed, superactive, mesic Xeric Natrargids

Typical pedon: McDermott silt loam, located in map unit 284, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 3 inches; light gray (2.5Y 7/2) silt loam, grayish brown (2.5Y 5/2) moist; moderate fine platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine tubular pores; slightly effervescent with disseminated lime; strongly alkaline (pH 8.5); abrupt wavy boundary.

A2—3 to 6 inches; light gray (2.5Y 7/2) silt loam, grayish brown (2.5Y 5/2) moist; strong medium platy structure; slightly hard, very friable, sticky and plastic; common very fine and fine, and few medium roots; many very fine tubular pores; slightly effervescent with disseminated lime; strongly alkaline (pH 8.5); clear wavy boundary.

Bk—6 to 13 inches; white (2.5Y 8/2) silt loam, light yellowish brown (2.5Y 6/4) moist; moderate medium angular blocky structure; slightly hard, very friable, sticky and plastic; few very fine, common fine and few medium roots; common very tubular pores; violently effervescent, lime segregated in common fine soft masses; strongly alkaline (pH 8.5); clear wavy boundary.

Btkl—13 to 19 inches; white (2.5Y 8/2) clay loam, light yellowish brown (2.5Y 6/4) moist; strong fine and medium angular blocky structure; slightly hard, very friable, sticky and plastic; few very fine and fine roots; common very fine tubular pores; many thin clay films on faces of peds and in pores; violently effervescent, lime segregated in common fine soft masses; sodium adsorption ratio is 11; electrical conductivity is 0.72 mmhos; strongly alkaline (pH 8.5); clear wavy boundary.

1Btkn2—19 to 25 inches; light gray (2.5Y 7/2) silty clay loam, light yellowish brown (2.5Y 6/3) moist; moderate medium prismatic structure parting to weak medium angular blocky; hard, firm, sticky and plastic; few fine roots; common very fine tubular pores; many thin clay films on faces of peds and in pores; violently effervescent, lime segregated in common fine soft filaments; sodium adsorption ratio is 19; electrical conductivity is 0.87 mmhos; strongly alkaline (pH 8.5); gradual wavy boundary.

2Btkn2—25 to 35 inches; white (2.5Y 8/2) silty clay loam, light yellowish brown (2.5Y 6/4) moist; moderate medium prismatic structure parting to strong medium angular blocky; slightly hard, very friable, sticky and plastic; few very fine, common fine and few medium roots; common very fine tubular pores; continuous thin clay films on faces of peds and in pores; violently effervescent, lime segregated in

common fine soft masses; sodium adsorption ratio is 23; electrical conductivity is 1 mmhos; strongly alkaline (pH 8.5); gradual wavy boundary.

2B'tk—35 to 50 inches; white (2.5Y 8/2) clay loam, light yellowish brown (2.5Y 6/4) moist; strong prismatic structure parting to strong medium angular blocky; hard, friable, sticky and plastic; few very fine, common fine and few medium roots; many very fine tubular pores; violently effervescent, lime segregated in many fine soft filaments; sodium adsorption ratio is 8; electrical conductivity is 1.4 mmhos; strongly alkaline (pH 8.5); gradual wavy boundary.

2BCk—50 to 60 inches; light brownish gray (2.5Y 6/2) silt loam, dark grayish brown (2.5Y 4/2) moist; weak medium prismatic structure parting to moderate fine angular blocky; hard, firm, sticky and plastic; slightly effervescent, lime segregated in common fine soft filaments; strongly alkaline (pH 8.5).

Type location: On "The Island" north side of main northeast-southwest dirt road at a point 0.85 mile east of last east fork in the road; 700 feet north and 2,600 feet west of southeast corner of Sec. 3, T.27 N., R.15 E.

Range in Characteristics:

Soil moisture: Usually dry in all parts of the moisture control section (6 to 19 inches) from June 1 to November 15 (167 days) and moist in all parts from December 1 to April 15. Aridic moisture regime bordering on xeric.

Soil temperature: 53 to 56 degrees F.

Depth to carbonates: 0 to 4 inches.

Reaction: Moderately to strongly alkaline.

Control section:

Clay content—27 to 35 percent clay.

A horizon:

Hue—10YR, 2.5Y.

Value—6 through 8 dry, 3 through 6 moist.

Chroma—2 through 4, dry or moist.

Effervescence—Noneffervescent to strongly effervescent.

BAtkn and 2Btkn horizons:

Hue—10YR, 2.5Y, 5Y.

Value—6 through 8 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Clay loam, silt loam or silty clay loam.

Lime—Disseminated, in filaments or in irregular soft masses.

Durinodes—Between the depths of 40 to 60 inches, some pedons have 30 to 40 percent hard firm 10 to 30 mm durinodes.

SAR—11 to 30.

Electrical conductivity—0 to 2 mmhos.

Modoc series

The Modoc series consists of moderately deep, well drained soils on fan remnants. These soils formed in mixed lacustrine deposits. Slopes range from 0 to 2 percent.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Argiduridic Durixerolls

Typical pedon: Modoc sandy loam, located in map unit 285, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 12 inches; brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine interstitial pores; slightly alkaline (pH 7.8); gradual wavy boundary.

A2—12 to 16 inches; brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; common fine distinct black and dark yellowish brown (10YR 2/1 and 4/6) moist mottles; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots, many very fine interstitial pores; slightly alkaline (pH 7.8); abrupt wavy boundary.

Bt1—16 to 21 inches; olive brown (2.5Y 4/4) sandy clay loam, dark yellowish brown (10YR 3/4) moist; strong medium angular blocky structure; very hard, friable, sticky and plastic; few very fine roots; many very fine tubular pores; many moderately thick clay films on faces of peds; slightly alkaline (pH 7.8); gradual wavy boundary.

Bt2—21 to 28 inches; light olive brown (2.5Y 5/3) sandy clay loam, olive brown (2.5Y 4/4) moist; moderate medium subangular blocky structure; very hard, friable, sticky and plastic; few very fine roots; many very fine tubular pores; continuous moderately thick clay films on faces of peds; slightly alkaline (pH 7.8); abrupt wavy boundary.

Bqkm—28 to 50 inches; white (10YR 8/2) continuous, strongly silica and lime cemented tuff; strong medium angular blocky structure; very hard, very firm, brittle; 3 continuous, weakly cemented horizontal layers that are 2 to 8 mm thick; vertical ped faces coated with strongly effervescent lime, occurring as common fine irregular seams; gradual wavy boundary.

C1—50 to 65 inches; pale yellow and light yellowish brown (5Y 7/3 and 2.5Y 6/4) stratified gravelly sand to

sandy loam, olive and olive brown (5Y 4/3 and 2.5Y 4/4) moist; massive; slightly hard, friable and very friable, nonsticky and nonplastic; no roots, many very fine interstitial pores; slightly alkaline (pH 7.5).

Type location: About 2.7 miles west of Standish, CA; 15 feet north of the 3rd fencepost east of the west side of Sec. 13, 0.5 mile west of the intersection of Johnson Road and Hwy 395; 400 feet north and 50 feet east of the west 1/4 corner of Sec. 13, T.29 N., R.13 E.

Range in Characteristics:

Soil moisture: The soil between depths of 6 to 16 inches is dry in all parts from mid-June to mid-November (about 120 to 140 days). Xeric moisture regime.

Soil temperature: 47 to 53 degrees F.

Depth to a duripan: 20 to 40 inches.

Mollic epipedon: 10 to 14 inches thick, and includes the upper part of the Bt horizon in some pedons.

Sodium adsorption ratio: 0 to 4.

Electrical conductivity: 0 to 2.

Other features: Some pedons have a bedrock substratum.

A horizon:

Value—4 to 5 dry, 2 to 3 moist.

Chroma—2 to 3, dry or moist.

Reaction—Slightly acid through slightly alkaline.

Texture—Sandy loam, fine sandy loam, loam, gravelly sandy loam, gravelly fine sandy loam or gravelly loam.

Clay content—10 to 25 percent.

Rock fragments—0 to 20 percent pebbles.

Bt horizons:

Hue—10YR, 7.5YR, 5YR.

Value—4 through 6 dry, 3 to 4 moist.

Chroma—2 through 4, dry or moist.

Reaction—Neutral to moderately alkaline.

Texture—Loam, sandy clay loam, clay loam, gravelly sandy clay loam or gravelly clay loam.

Clay content—25 to 35 percent clay with 5 to 15 percent more clay content than the A horizon.

Rock fragments—0 to 30 percent pebbles.

Bqkm horizon:

Cementation—Indurated or strongly cemented and indurated in some part or has thin continuous opal capping on plates.

Structure—Massive or platy, extremely hard or very hard when dry and extremely or very firm when moist. In some pedons the lower part of the duripan

is weakly cemented and contains up to 25 percent gravel.

Carbonates—Thin seams of lime or lime-silica occur in some places of the Bqk horizon.

Mottsville series

The Mottsville series consists of very deep, excessively drained soils on alluvial fans and fan aprons. These soils formed in alluvium from granite. Slopes range from 0 to 15 percent.

Taxonomic class: Mixed, mesic Torripsammentic Haploxerolls

Typical pedon: Mottsville loamy coarse sand, located in map unit 287, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 5 inches; grayish brown (10YR 5/2) loamy coarse sand, very dark grayish brown, (10YR 3/2) moist; weak medium granular structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine and fine interstitial pores; 5 percent gravel; slightly acid (pH 6.5); clear smooth boundary.

A2—5 to 17 inches; grayish brown (10YR 5/2) loamy coarse sand, very dark grayish brown (10YR 3/2) moist; weak medium granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine and fine interstitial pores; 5 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

C1—17 to 24 inches; light brownish gray (10YR 6/2) stratified loamy coarse sand, very dark grayish brown (10YR 3/2) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and fine and few medium roots; common very fine and many fine interstitial pores; 5 percent gravel; neutral (pH 7.0); gradual wavy boundary.

C2—24 to 36 inches; light yellowish brown (10YR 6/4) stratified loamy coarse sand, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine and many fine interstitial pores; 5 percent gravel; neutral (pH 7.0); gradual wavy boundary.

C3—36 to 60 inches; very pale brown (10YR 7/4) coarse sand, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; common very fine and fine interstitial pores; 5 percent gravel; neutral (pH 7.0).

Type location: About 2,100 feet north and 400 feet east of the southwest corner of Sec. 14, T.28 N., R.13 E.

Range in Characteristics:

Soil moisture: Usually dry in the moisture control section; moist in winter and spring, dry in summer and fall.

Aridic moisture regime that borders on xeric.

Soil temperature: 48 to 53 degrees F.

Mollic epipedon thickness: 10 to 20 inches, includes the AC horizon in some pedons.

Control section:

Clay content—3 to 10 percent.

Texture—Coarse sand and very coarse sand.

Rock fragments—5 to 30 percent, mainly fine pebbles. Lithology of fragments are granitic rocks such as granite and granodiorite.

A horizons:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Organic matter content—1 to 3 percent.

Structure—Weak or moderate subangular blocky, granular, or is single grain.

Reaction—Moderately acid to neutral.

AC horizon:

Value—5 or 6 dry, 2 through 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Gravelly coarse sand, gravelly loamy coarse sand, loamy coarse sand, coarse sand, or loamy sand.

Rock fragments—5 to 30 percent.

Organic matter content—0.5 to 3 percent.

Reaction—Moderately acid to neutral.

C horizons:

Value—5 or 6 dry, 2 through 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Gravelly coarse sand, gravelly loamy coarse sand, loamy coarse sand, or coarse sand; some pedons have loamy sand.

Rock fragments—5 to 30 percent.

Organic matter content—0.25 to 0.6 percent.

Reaction—Moderately acid to neutral.

Mountmed series

The Mountmed series consists of very deep, very poorly and poorly drained soils on flood plains. These soils formed in mixed alluvium. Slopes range from 0 to 3 percent.

Taxonomic class: Fine, smectitic, frigid Fluvaquentic Vertic Endoaquolls

Typical pedon: Mountmed peat, located in map unit 293, pasture. (Colors are for dry soils unless otherwise noted).

Oe—0 to 6 inches; sphagnum peat; neutral (pH 6.8); abrupt smooth boundary.

A—6 to 16 inches; gray (5Y 5/1) clay, very dark gray (5Y 3/1) moist; few medium prominent light gray mottles (5GY 5/1) moist; weak coarse subangular blocky structure; very hard, very friable, very sticky and very plastic; many very fine and fine roots; few very fine interstitial pores; neutral (pH 7.0); clear wavy boundary.

Cg1—16 to 38 inches; light gray (5Y 6/1) clay, very dark gray (5Y 3/1) moist; many medium distinct greenish gray (5GY 5/1) mottles, dark greenish gray (5GY 4/1) moist; massive; very hard, very friable, very sticky and very plastic; few very fine and fine roots; few very fine interstitial pores; neutral (pH 7.0); clear wavy boundary.

Cg2—38 to 47 inches; pale yellow (2.5Y 7/4) clay loam, olive brown (2.5Y 4/4) moist; common fine prominent dark greenish gray (5GY 4/1) mottles, dry and moist; massive; very hard, very friable, sticky and plastic; few very fine and fine roots; few very fine interstitial pores; strongly effervescent; lime segregated in few medium soft filaments; slightly alkaline (pH 7.5); abrupt smooth boundary.

2C—47 to 55 inches; pale yellow (2.5Y 7/4) gravelly coarse sandy loam, light olive brown (2.5Y 5/4) moist; many medium prominent brownish yellow (10YR 6/6) mottles, dark yellowish brown (10YR 4/6) moist; massive; very hard, friable, nonsticky and nonplastic; few fine roots; many very fine interstitial pores; 20 percent gravel; slightly alkaline (pH 7.5); abrupt smooth boundary.

3C—55 to 60 inches; light yellowish brown (10YR 6/4) sand, dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; no roots; many very fine interstitial pores; slightly alkaline (pH 7.5).

Type location: About 4.5 miles southeast of Westwood; 4.5 miles east from Pine Town on Beaty and Associates logging road at the southeast corner of its intersection with the road to the Home Ranch; about 1,400 feet east and 900 feet north of the southwest corner of Sec. 13, T.28 N., R.9 E.

Range in Characteristics:

Soil moisture: Usually saturated between the depths of 0 and 18 inches from November through June and

below 18 inches from July through October unless drained. Aquic moisture regime.

Soil temperature: 42 to 46 degrees F.

Depth to the 2C horizon: 40 to more than 60 inches from the surface of the mineral soil.

Depth to mottles: From the base of the mollic epipedon to a depth of 40 inches.

A horizon:

Hue—10YR, 5Y, 2.5Y, N.

Value—2 through 5 dry, 2 to 3 moist.

Chroma—0 through 5, dry or moist.

Texture—Loam, clay loam, or clay.

Cg horizon:

Hue—2.5Y, 5Y, 5GY.

Value—5 through 7 dry, 3 through 5 moist.

Chroma—1 through 4, dry or moist.

2C horizon:

Hue—2.5Y, 5G.

Chroma—1 through 4, dry or moist

Texture—Clay or coarse sandy loam.

Rock fragments—15 to 20 percent 2 to 5 mm gravel and 10 to 50 percent 5 to 75 mm gravel.

Reaction—Neutral or slightly alkaline.

3C horizon:

Hue—10YR, 5GY.

Value—6 to 7 dry, 4 to 5 moist

Chroma—1 through 4, dry or moist.

Texture—Sand or sandy loam.

Reaction—Neutral or slightly alkaline.

Newlands taxadjunct

The Newlands taxadjunct consists of deep, well drained soils on mountain back slopes and toe slopes. These soils formed in material weathered from andesite or basalt. Slopes range from 5 to 30 percent.

Taxonomic class: Fine-loamy, mixed, superactive, frigid Aridic Argixerolls

Typical pedon: Newlands stony loam, located in map unit 240, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 8 inches; brown (7.5YR 5/2) stony loam, dark brown (7.5YR 3/2) moist; moderate medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine roots; common very fine interstitial pores; 10 percent stones

and 10 percent gravel; neutral (pH 7.0); clear wavy boundary.

BA—8 to 13 inches; brown (7.5YR 5/2) gravelly clay loam, dark brown (7.5YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, few fine and few medium roots; common very fine interstitial pores; 5 percent cobbles and 10 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt1—13 to 25 inches; brown (7.5YR 5/4) gravelly clay loam, dark brown (7.5YR 3/4) moist; moderate medium angular blocky structure; hard, very friable, sticky and plastic; few very fine and few fine roots; common very fine tubular pores; many moderately thick clay films on faces of peds and in pores; 5 percent cobbles and 10 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt2—25 to 33 inches; light brown (7.5YR 6/4) gravelly clay loam, brown (7.5YR 4/4) moist; moderate medium angular blocky structure; hard, very friable, sticky and plastic; few very fine roots; common very fine and few fine tubular pores; many thick clay films on faces of peds and in pores; 20 percent 2 to 5 mm gravel; neutral (pH 7.0); clear wavy boundary.

Bt3—33 to 43 inches; reddish brown (5YR 5/3) gravelly clay loam, dark reddish brown (5YR 3/3) moist; moderate medium angular blocky structure; hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine and few fine tubular pores; many moderately thick clay films on faces of peds; 20 percent gravel; neutral (pH 7.0); abrupt irregular boundary.

R—43 to 45 inches; hard, fractured basalt.

Type location: About 20 miles northeast of Ravendale; 0.4 mile west of the California-Nevada state line on Marr Road (Lassen County Road 526) and 50 feet southwest of this road; 1,300 feet south and 2,800 feet east of the northwest corner of Sec. 25, T.35 N., R.17 E.

Range in Characteristics:

Soil moisture: Aridic moisture regime bordering on xeric.

Soil temperature: 60 to 64 degrees F.

Thickness of solum and depth to bedrock: 40 to 60 inches.

Reaction: Slightly acid or neutral.

Mollic epipedon: 12 to 16 inches thick.

A horizon:

Hue—10YR, 7.5YR.

Value—4 to 5 dry, 3 moist.

Chroma—2 to 3, dry or moist.

Rock fragments—15 to 30 percent gravel, cobbles, or stones.

Bt horizon:

Hue—10YR, 7.5YR, 5YR.

Value—5 to 6 dry, 3 to 4 moist.

Chroma—3 through 6, dry or moist.

Texture—Loam or clay loam.

Rock fragments—15 to 30 percent cobbles and gravel.

Remarks

The soils mapped as Newlands in this area are taxadjuncts to the series and classify as fine-loamy, mixed, superactive, frigid Aridic Argixerolls. They have mean summer soil temperatures ranging from 60 to 64 degrees F. This difference, however, does not significantly affect their use and management.

Ninekar series

The Ninekar series consists of moderately deep, well drained soils on plateaus. These soils formed in residuum weathered from basalt. Slopes range from 2 to 9 percent.

Taxonomic class: Fine, smectitic, mesic, Xerertic Haplargids

Typical pedon: Ninekar very cobbly silt loam, located in map unit 330, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 3 inches; grayish brown (10YR 5/2) very cobbly silt loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; many very fine tubular pores; 10 percent stones, 25 percent cobbles and 5 percent gravel; neutral (pH 7.0); clear wavy boundary.

ABt—3 to 6 inches; brown (7.5YR 5/2) clay loam, dark brown (7.5YR 3/2) moist; moderate medium subangular blocky structure; hard, very friable, sticky and plastic; common very fine, common fine and few medium roots; common very fine tubular pores; few thin clay films on faces of peds; 10 percent cobbles; neutral (pH 7.0); abrupt wavy boundary.

Bt1—6 to 14 inches; brown (7.5YR 5/4) clay, dark brown (7.5YR 4/4) moist; strong fine prismatic structure parting to strong medium angular blocky; very hard, friable, very sticky and very plastic; few fine and few

medium roots; common very fine tubular pores; common thick clay films on faces of peds; many pressure faces; cracks 1/8 inch wide and 1 1/2 to 2 inches apart extend from 6 to 14 inches deep; neutral (pH 7.0); clear wavy boundary.

Bt2—14 to 21 inches; light brown (7.5YR 6/4) clay, brown (7.5YR 5/4) moist; strong medium angular blocky structure; very hard, friable, very sticky and very plastic; few fine and few medium roots; few very fine tubular pores; many thick clay films on faces of peds; aggregates are mostly wedge-shaped; many pressure faces; slightly alkaline (pH 7.5); clear wavy boundary.

Btk—21 to 28 inches; reddish yellow (7.5YR 7/6) clay loam, strong brown (7.5YR 5/6) moist; strong fine angular blocky structure; slightly hard, very friable, sticky and plastic; few fine and few medium roots; few very fine tubular pores; continuous moderately thick clay films on faces of peds; strongly effervescent, lime segregated in common fine filaments; moderately alkaline (pH 8.4); abrupt wavy boundary.

R—28 to 38 inches; hard fractured basalt coated with silica and lime.

Type location: About 7.25 miles north of the town of Madeline on Hwy 395, then 0.75 mile east on dirt road across railroad tracks, then 0.1 north along railroad tracks then 0.5 miles east up dirt road. The site is 15 feet south of this road; about 200 feet west and 1,250 feet south of the northeast corner of Sec. 8, T.38 N, R.13 E.

Range in Characteristics:

Soil moisture: Usually dry throughout from June 1 through November 1 (153 days). Aridic moisture regime bordering on xeric.

Soil temperature: 51 to 57 degrees F.

Depth to a lithic contact: 20 to 40 inches.

Cracks: 4 cm wide extend from the top of the argillic to about 0.5 cm wide at 23 inches. The cracks do not extend to the surface.

Rock fragments: Surface, mostly stones and cobbles, range from 10 to 50 percent.

A horizon:

Hue—10YR, 7.5YR.

Value—4 through 6 dry, 3 to 4 moist.

Chroma—1 to 3, dry or moist.

Texture—Loam or silt loam modified by 20 to 50 percent cobbles and stones.

Reaction—Slightly acid or neutral.

Epipedon—Dry value of 6 or has moist value or chroma of 4 or is too thin to qualify for a mollic epipedon.

Bt horizon:

Hue—10YR, 7.5YR, 5YR.

Value—4 through 7 dry, 3 through 5 moist.

Chroma—2 through 6, dry or moist.

Texture—Clay loam, silty clay loam or clay with 35 to 60 percent clay modified by 0 to 15 percent gravel.

Reaction—Neutral through moderately alkaline.

Ninemile series

The Ninemile series consists of shallow well drained soils on plateaus and ridges and back slopes of mountains. These soils formed in residuum weathered from basalt or andesite. Slopes range from 2 to 15 percent.

Taxonomic class: Clayey, smectitic, frigid Lithic Argixerolls

Typical pedon: Ninemile very stony loam, located in map unit 103, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 2 inches; brown (7.5YR 4/2) very stony loam, dark brown (7.5YR 3/2) moist; moderate medium thick platy structure parting to moderate fine and medium angular blocky; soft, very friable, sticky and plastic; many very fine and few fine roots; common very fine and few fine pores; 30 percent stones, 20 percent cobbles, 10 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt1—2 to 5 inches; brown (7.5YR 4/2) clay, dark brown (7.5YR 3/2) moist; strong thick and very thick platy structure parting to strong medium and coarse angular blocky; slightly hard, very friable, sticky and plastic; many very fine and few fine roots; common very fine and few fine pores; many thin clay films on faces of peds and in pores; 10 percent gravel; neutral (pH 7.0); abrupt wavy boundary.

Bt2—5 to 11 inches; brown (10YR 4/3) clay, dark brown (10YR 3/3) moist; weak fine and medium prismatic structure parting to moderate medium and coarse angular blocky; hard, very friable, very sticky and very plastic; few fine, common very fine and medium roots; common very fine pores; many moderately thick and thick clay films on faces of peds and in pores; 10 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt3—11 to 18 inches; brown (10YR 4/3) gravelly clay, dark brown (10YR 3/3) moist; strong medium and coarse angular blocky structure; very hard, very firm, very sticky and very plastic; common very fine and few fine roots; few very fine pores; many moderately thick clay films on faces of peds and in pores; 5

percent cobbles, 20 percent gravel; neutral (pH 7.0); abrupt wavy boundary.

R—18 to 22 inches; massive hard basalt.

Type location: About 0.5 miles northeast along fence from crossing of Horne Ranch Road and Painter's Creek; 2,000 feet north and 750 feet east of southwest corner of Sec. 12 T.34 N., R.16 E.

Range in Characteristics:

Soil moisture: Usually dry, moist during the winter and spring, dry mainly during late June through early October. Aridic moisture regime that borders on xeric.

Soil temperature: 44 to 47 degrees F.

Depth to base of mollic epipedon: 7 to 18 inches; commonly includes part or all of the argillic horizon.

Depth to bedrock: 10 to 20 inches to a lithic contact; where bedrock is less than 15 inches deep, the upper 1 to 5 inches of the bedrock is weathered.

Control section:

Clay content—Averages 40 to 60 percent.

Rock fragments—0 to 35 percent, lithology of fragments are volcanic rocks such as andesite, basalt, rhyolite, or tuff.

A horizon:

Hue—7.5YR or 10YR.

Value—3 through 5 dry, 2 or 3 moist.

Chroma—1 through 3.

Reaction—Slightly acid to moderately alkaline.

Organic matter—1 to 4 percent.

Other features—The upper 1 or 2 inches of some pedons have color value of 6 and are massive.

Bt horizons:

Hue—5YR through 10YR.

Value—3 through 6 dry, 2 through 4 moist.

Chroma—2 through 4, lower subhorizons have chroma of 6 in some pedons.

Clay content—Typically 40 to 60 percent. Some subhorizons range to 35 percent.

Texture—Mainly clay or gravelly clay, but some subhorizons range to clay loam.

Rock fragments—0 to 30 percent pebbles or cobbles.

Structure—Moderate or strong subangular or angular blocky or prismatic.

Consistence—Hard to extremely hard dry.

Reaction—Neutral to moderately alkaline.

Other features—Some pedons are slightly hard dry, friable to firm moist; moderately sticky and moderately plastic wet in the Bt1 horizon.

Remarks

The soils mapped as Ninemile in map unit 299 are outside the range for the series. They have higher

precipitation than is defined for the series. This difference, however, does not significantly affect use and management.

Observation series

The Observation series consists of moderately deep, well drained soils on mountain back slopes. These soils formed in residuum and colluvium weathered from basalt, andesite, or tuff. Slopes range from 9 to 50 percent.

Taxonomic class: Fine, smectitic, frigid Typic Argixerolls

Typical pedon: Observation very stony loam, located in map unit 300, rangeland. (Colors are for dry soils unless otherwise noted). Surface area is covered by 15 percent stones, 15 percent cobbles, and 15 percent gravel.

A1—0 to 3 inches; dark grayish brown (10YR 4/2) very stony loam, very dark brown (10YR 2/2) moist; moderate medium and fine granular structure; soft, very friable, sticky and plastic; many very fine roots; many very fine interstitial pores; 15 percent stones, 15 percent cobbles, 15 percent gravel; neutral (pH 7.0); clear smooth boundary.

A2—3 to 9 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; strong medium and fine subangular blocky structure; slightly hard, very friable, sticky and plastic; common very fine and fine, few medium roots; many very fine and fine tubular and interstitial pores; 5 percent cobbles, 5 percent gravel; neutral (pH 7.0); clear wavy boundary.

BA1—9 to 18 inches; brown (10YR 5/3) clay loam, dark brown (10YR 3/3) moist; strong medium angular blocky structure; hard, friable, very sticky and very plastic; common very fine and fine roots; many very fine tubular pores; 1 percent stones, 5 percent cobbles and 5 percent gravel; common moderately thick clay films on faces of peds and in pores; neutral (pH 7.0); gradual wavy boundary.

Bt1—18 to 25 inches; light brown (7.5YR 6/4) gravelly clay, dark brown (7.5YR 4/4) moist; moderate medium and coarse prismatic structure parting to strong coarse angular blocky; extremely hard, firm, very sticky and very plastic; common very fine expd roots; common very fine tubular pores; 5 percent cobbles and 15 percent gravel; many thick clay films on faces of peds and in pores; neutral (pH 7.0); gradual wavy boundary.

Bt2—25 to 35 inches; reddish yellow (7.5YR 6/6) gravelly clay; strong brown (7.5YR 4/6) moist;

massive; very hard, friable, very sticky and very plastic; few very fine roots; common very fine tubular pores; 5 percent cobbles and 15 percent gravel; few moderately thick clay film coatings on soft rock fragments; neutral (pH 7.0); abrupt wavy boundary.

R—35 inches; hard fractured andesite, fractures filled with soil material from above.

Type location: About 3.0 miles east of Horn Ranch on road to Ravendale and 2.5 miles south of this point on the dirt road to Observation Peak and 75 feet east of this road; about 900 feet north and 100 feet west of the southeast corner of Section 16, T.34 N., R.16 E.

Range in Characteristics:

Soil moisture: Usually moist from December 1 to May 15. Xeric moisture regime.

Soil temperature: 44 to 47 degrees F.

Solum thickness and depth to bedrock: 20 to 40 inches.

Rock fragments: Mostly cobbles and stones, cover 20 to 50 percent of the surface.

Mollic epipedon: 8 to 18 inches thick and in some pedons extends into the upper part of the B horizon.

A horizon:

Hue—10YR, 7.5YR.

Value—4 to 5 dry, 2 to 3 moist.

Chroma—2 to 3, dry or moist.

Reaction—Neutral or slightly alkaline.

Bt horizon:

Hue—10YR, 7.5YR.

Value—4 through 6 dry, 3 to 4 moist.

Chroma—2 through 6, dry or moist.

Clay content—Clay loam or clay.

Rock fragments—35 to 50 percent clay and 5 to 25 percent rock fragments, mostly gravel and cobbles.

Reaction—Neutral or slightly alkaline.

A—0 to 4 inches; brown (10YR 5/3) very stony loam, very dark grayish brown (10YR 3/2) moist; moderate thin and medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine interstitial pores; 15 percent stones; 10 percent cobbles and 10 percent gravel; neutral (pH 6.6); abrupt wavy boundary.

BAt—4 to 9 inches; brown (10YR 5/3) very cobbly loam, very dark grayish brown (10YR 3/2) moist; moderate medium and coarse subangular blocky structure; hard, very friable, sticky and plastic; many very fine and common fine and medium roots; common very fine tubular and interstitial pores; few thin clay films on faces of peds and in pores; 5 percent stones, 20 percent cobbles and 15 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt1—9 to 15 inches; brown (10YR 5/3) very cobbly clay loam, dark brown (7.5YR 3/2) moist; moderate fine and medium subangular blocky; hard, very friable, sticky and plastic; common very fine and few fine and medium roots; common very fine tubular and interstitial pores; common thin clay films on faces of peds and in pores; 25 percent cobbles and 20 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt2—15 to 19 inches; brown (7.5YR 5/4) very cobbly clay loam, dark brown (7.5YR 3/4) moist; moderate medium and coarse angular blocky structure; hard, friable, sticky and plastic; few very fine and fine roots; few very fine tubular and common very fine interstitial pores; common thin and moderately thick clay films on faces of peds and in pores; 25 percent cobbles and 20 percent gravel; neutral (pH 7.0); abrupt irregular boundary.

R—19 inches; hard basalt with some slight weathering at upper 1/2 inch; massive; few fractures; few thin slightly effervescent lime coats in fractures.

Type location: About 1,800 feet east and 1,200 feet south of the northeast corner of Sec. 36, T.32 N., R.12 E.

Range in Characteristics:

Soil moisture: Usually dry in all parts from mid-June until mid-November (140 to 150 days). The soil moisture control section is dry more than half the time the soil temperature is above 41 degrees F. Aridic moisture regime bordering on xeric.

Soil temperature: 48 to 51 degrees F. Surface is covered by 35 to 50 percent rock fragments.

Depth to extrusive igneous rock: 14 to 20 inches

A horizon:

Hue—10YR, 7.5YR.

Orhood series

The Orhood series consists of shallow, well drained soils on mountain back slopes, toeslopes, and plateaus. These soils formed in material weathered from basalt or andesite. Slopes range from 5 to 30 percent.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Lithic Argixerolls

Typical pedon: Orhood very stony loam, located in map unit 360, rangeland. (Colors are for dry soils unless otherwise noted).

Chroma—2 to 3, dry or moist.

Texture—Very cobbly loam, very stony loam or very stony sandy loam.

Clay content—10 to 15 percent clay.

Rock fragments—35 to 60 percent. Stones and cobbles range from 30 to 45 percent. Gravel range from 5 to 15 percent.

Organic matter—1 to 3 percent in the surface.

Bt horizon:

Hue—10YR, 7.5YR.

Value—4 through 6 dry, 3 to 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Very cobbly loam or very cobbly clay loam.

Clay content—18 to 32 percent and averages 20 to 27 percent.

Rock fragments—35 to 55 percent. Stones range from 5 to 10 percent. Cobbles range from 20 to 30 percent. Gravel range from 10 to 15 percent.

Orr series

The Orr series consists of very deep, well drained soils on fan remnants. These soils formed in mixed alluvium. Slopes range from 0 to 2 percent.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Aridic Argixerolls

Typical pedon: Orr sandy loam, located in map unit 303, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 5 inches; brown (10YR 5/3) sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium platy structure that parts to moderate medium subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots, many very fine interstitial pores, neutral (pH 7.0); abrupt smooth boundary.

BAt—5 to 8 inches; brown (10YR 5/3) sandy loam, dark brown (10YR 3/3) moist; moderate fine prismatic structure; hard, friable, slightly sticky and slightly plastic; few very fine, fine and medium roots; many very fine tubular pores; few thin clay films on faces of peds; slightly alkaline (pH 7.4); clear smooth boundary.

Bt1—8 to 12 inches; brown (10YR 5/3) sandy clay loam, dark brown (10YR 3/3) moist; moderate medium prismatic structure; very hard, firm, slightly sticky and slightly plastic; few very fine and fine roots; many very fine interstitial pores; many moderately thick clay films on faces of peds; slightly alkaline (pH 7.4); clear smooth boundary.

Bt2—12 to 21 inches; yellowish brown (10YR 5/4) sandy clay loam, dark yellowish brown (10YR 3/4) moist; moderate medium prismatic structure; very hard, friable, slightly sticky and slightly plastic; few medium roots; many very fine interstitial pores; many moderately thick clay films on faces of peds; slightly alkaline (pH 7.4); clear smooth boundary.

C—21 to 30 inches; light yellowish brown (10YR 6/4) sandy loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; hard, friable, slightly sticky and nonplastic; few fine roots; many very fine tubular pores; slightly alkaline (pH 7.6); clear smooth boundary.

Cq—30 to 36 inches; light yellowish brown (10YR 6/4) sandy loam; dark yellowish brown (10YR 4/4) moist; moderate medium platy structure; hard, friable, slightly sticky and slightly plastic; no roots; many very fine interstitial pores; 15 percent of this horizon has weak discontinuous silica cementation; slightly alkaline (pH 7.6); abrupt smooth boundary.

2C—36 to 60 inches; very pale brown (10YR 7/4) loamy sand, yellowish brown (10YR 5/4) moist; single grain; loose, nonsticky and nonplastic; no roots; many very fine interstitial pores; slightly alkaline (pH 7.6).

Type location: About 2.4 miles north of Doyle, CA; 0.25 miles north of the intersection of Laver Crossing and the north trending road, 50 feet east of road; 2,100 feet east and 2,500 feet south of the northwest corner of Sec. 31, T.26 N., R.17 E.

Range in Characteristics:

Soil moisture: Usually dry, moist in the late winter and spring, dry summer and fall. Aridic moisture regime bordering on xeric.

Soil temperature: 49 to 53 degrees F.

Mollic epipedon: 10 to 20 inches thick, and may include the upper part of the Bt horizon.

Thickness of argillic horizon: 35 to 45 inches.

Control section:

Clay content—18 to 25 percent.

Rock fragments—Less than 35 percent.

A horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry.

Chroma—2 or 3.

Bt horizon:

Hue—10YR or 7.5YR,

Value—4 through 6 dry, 2 through 4 moist.

Chroma—2 through 4.

Texture—Sandy loam, sandy clay loam, or loam.

Structure—Weak angular blocky or prismatic structure, or it is massive.

Rock fragment—0 to 35 percent in any one horizon, averages 10 to 25 percent.

C horizon:

Hue—10YR or 7.5YR

Value—6 or 7 dry, 4 through 6 moist

Chroma—3 or 4.

Texture—Sand, loamy fine sand, sandy loam, fine sandy loam, sandy clay loam, clay loam and is gravelly or very gravelly in some pedons.

Rock fragment—Cobbles range from 0 to 20 percent

Some pedon have lime coating on bottom of rock fragments.

Other features—Durinodes average less than 20 percent when present in some pedons.

Outland series

The Outland series consists of moderately deep, well drained soils on plateaus and mountain back slopes. These soils formed in material weathered from andesite or pyroclastic rock. Slopes are 5 to 50 percent.

Taxonomic class: Loamy-skeletal, isotic, frigid Vitrandic Haploxeralfs

Typical pedon: Outland gravelly sandy loam, located in map unit 305, forestland. (Colors are for dry soils unless otherwise noted).

A—0 to 4 inches; reddish brown (5YR 5/3) gravelly sandy loam, dark reddish brown (5YR 3/3) moist; moderate medium granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine, common fine and few medium roots; few very fine interstitial and tubular pores; 15 percent 5 to 75 mm hard, rounded gravel and 10 percent 2 to 5 mm hard, rounded gravel; slightly acid (pH 6.5); clear wavy boundary.

BAt—4 to 10 inches; reddish brown (5YR 5/4) very gravelly loam, dark reddish brown (5YR 3/4) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine, few fine, common medium and few coarse roots; few very fine interstitial and tubular pores; few thin clay films on faces of peds; 15 percent hard, rounded cobbles, 15 percent 5 to 75 mm hard, rounded gravel, and 20 percent 2 to 5 mm hard rounded gravel; slightly acid (pH 6.1); clear wavy boundary.

Bt1—10 to 18 inches; light reddish brown (5YR 6/4) very gravelly loam, reddish brown (5YR 4/4) moist; strong medium subangular blocky structure; hard, friable, sticky and plastic; few very fine and fine, and common medium roots; common very fine tubular pores; many moderately thick clay films on faces of peds and in pores; 15 percent 5 to 75 mm hard rounded gravel and 20 percent 2 to 5 mm hard rounded gravel; slightly acid (pH 6.1); abrupt irregular boundary.

Bt2—18 to 36 inches; light reddish brown (5YR 6/4) extremely gravelly loam, reddish brown (5YR 4/4) moist; strong fine and medium angular blocky structure; very hard, very friable, sticky and plastic; few very fine, fine and medium roots; common very fine tubular pores; many moderately thick clay films on faces of peds and in pores, 55 percent 5 to 75 mm soft vesicular gravel and 20 percent 2 to 5 mm gravel; slightly acid (pH 6.1); abrupt irregular boundary.

Crt—36 to 46 inches; soft vesicular andesite; dug by spade; vesicles coated with thick clay films.

Type location: About 4.5 miles northwest of Susanville; 2.5 miles north of Paiute Creek on the Paul Bunyan Logging Road then west on cross road 0.35 miles, then 50 feet south of road at edge of clearing; about 1,500 feet east and 200 feet north of the southwest corner of Sec. 15, T.30 N., R.11 E.

Range in Characteristics:

Soil moisture: Control section (10 inches to bedrock) is dry from July 15th to November 1st (107 days) and is moist in some or all parts the rest of the time. Xeric moisture regime.

Soil temperature: 44 to 46 degrees F.

Solum thickness and depth to paralithic contact: 20 to 40 inches.

Rock fragments: Surface fragments are 0 to 50 percent stones, 0 to 15 percent cobbles, and 20 to 45 percent gravel.

Base saturation: 50 to 75 percent.

A horizon:

Hue—10YR, 7.5YR, 5YR.

Value—4 to 5 dry, 3 moist.

Chroma—2 through 4, dry or moist.

Texture—Gravelly sandy loam, very gravelly sandy loam, stony sandy loam, very stony sandy loam or very stony loam.

Clay content—10 to 18 percent.

Rock fragments—20 to 50 percent.

BAt horizon:

Hue—10YR, 7.5YR, 5YR.

Value—5 to 6 dry, 3 to 4 moist.
 Chroma—3 to 4, dry or moist.
 Texture—Gravelly sandy loam, very cobbly sandy loam, or very gravelly loam.
 Clay content—10 to 18 percent.
 Rock fragments—20 to 50 percent.

Bt horizon:

Hue—7.5YR, 5YR.
 Value—5 to 6 dry, 3 to 4 moist.
 Chroma—2 through 6, dry or moist.
 Texture—Very gravelly loam, extremely gravelly loam, or extremely cobbly loam.
 Clay content—20 to 27 percent.
 Soft weathered rock fragments—45 to 75 percent.

Papeek series

The Papeek series consists of moderately deep, well drained soils on hills and mountain back slopes and toe slopes. These soils formed in residuum and colluvium weathered from metavolcanic or metasedimentary rock. Slopes range from 5 to 50 percent.

Taxonomic class: Fine, smectitic, mesic Vertic Haploxeralfs

Typical pedon: Papeek clay loam, located in map unit 308, forestland. (Colors are for dry soils unless otherwise noted).

- A—0 to 3 inches; light yellowish brown (2.5Y 6/4) clay loam, olive brown (2.5Y 4/4) moist; moderate very fine subangular blocky structure; slightly hard, very friable, sticky and plastic; common very fine roots; common very fine tubular pores; 5 percent gravel; vertical cracks; neutral (pH 6.7); abrupt wavy boundary.
- Bt—3 to 8 inches; pale brown (10YR 6/3) clay, brown (10YR 4/3) moist; strong fine and medium subangular blocky structure; hard, very friable, very sticky and very plastic; few fine, common medium and few coarse roots; common very fine tubular pores; few thin pressure faces; 5 percent gravel; vertical cracks; neutral (pH 6.7); clear wavy boundary.
- Btss1—8 to 16 inches; pale brown (10YR 6/3) clay, yellowish brown (10YR 5/4) moist; common fine distinct light yellowish brown (2.5Y 6/4) and common fine prominent brownish yellow (10YR 6/6) lithochromic mottles, common fine distinct light olive brown (2.5Y 5/4) and common fine prominent reddish yellow (7.5YR 6/8) moist; moderate medium angular

- blocky structure; hard, very friable, very sticky and very plastic; few fine, common medium and few coarse roots; few very fine tubular pores; common pressure faces; 10 percent hard smooth rounded 5 to 75mm gravel; nearly horizontal slickensides; vertical cracks; slightly acid (pH 6.5); clear wavy boundary.
- Btss2—16 to 24 inches; light yellowish brown (10YR 6/4) clay, yellowish brown (10YR 5/4) moist; common medium distinct light brownish gray (2.5Y 6/2) lithochromic mottles, common medium distinct grayish brown (2.5Y 5/2) moist; moderate medium angular blocky structure; hard, very friable, very sticky and very plastic; few fine and few coarse roots; few very fine tubular pores; common pressure faces; 10 percent hard smooth rounded 5 to 75 mm gravel; nearly horizontal slickensides; vertical cracks; slightly acid (pH 6.3); clear wavy boundary.
- BCt—24 to 33 inches; pale yellow (2.5Y 7/4) sandy clay loam, light yellowish brown (2.5Y 6/4) moist; many medium prominent yellow (10YR 7/6) lithochromic mottles, many medium prominent brownish yellow (10YR 6/6) moist; weak coarse subangular blocky structure; hard, very friable, sticky and plastic; few fine roots; few very fine tubular pores; few pressure faces; 10 percent gravel; slightly acid (pH 6.1); clear wavy boundary.
- Cr1—33 to 39 inches; white (10YR 8/1) fractured mudstone, gray (10YR 6/1) moist; common fine prominent yellow (2.5Y 7/6) lithochromic mottles, common fine prominent olive yellow (2.5Y 6/6) moist; few fine and few medium roots; mudstone fractured into angular blocks 10 to 15 mm across; moderately acid (pH 6.0); clear wavy boundary.
- Cr2—39 to 43 inches; soft massive metasedimentary rock.

Type location: About 1.7 miles south of the intersection of Highway 36 and the Susan River on the dirt road parallel to Williams Creek and 500 feet west of this road; about 2,200 feet west and 2,800 feet north of the southeast corner of Sec. 18, T.29 N., R.11 E.

Range in Characteristics:

Soil moisture: Usually dry from July 15th to November 1st (107 days) and is moist in all parts from December 1st to May 15th. Xeric moisture regime.

Soil temperature: 47 to 50 degrees F.

Solum thickness and depth to soft bedrock: 20 to 40 inches.

Rock fragments: Surface is covered with 0 to 15 percent cobbles.

Reaction: Slightly acid or neutral throughout.

Vertical cracks: 1 to 2 cm wide, extend from the surface to the base of the Bt horizon from mid-July through October.

A horizon:

Hue—10YR, 2.5Y.
Value—4 through 6 dry, 2 through 4 moist.
Chroma—2 through 4, dry or moist.
Texture—Clay loam, cobbly loam or cobbly clay loam.
Rock fragments—5 to 25 percent cobbles and gravel.

Bt horizon:

Hue—10YR, 7.5YR, 2.5Y.
Value—5 to 6 dry, 4 moist.
Chroma—2 through 4, dry or moist.
Texture—Clay or gravelly clay.
Rock fragments—5 to 20 percent gravel.

BCt horizon:

Hue—2.5Y, 5Y.
Value—7 dry, 4 through 6 moist.
Chroma—2 through 6, dry or moist.
Texture—Sandy clay loam or clay loam.
Rock fragments—0 to 10 percent gravel.

Penstock series

The Penstock series consists of very deep, well drained soils on mountain back slopes. These soils formed in residuum and colluvium weathered from metavolcanic or pyroclastic rock. Slopes range from 5 to 75 percent.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Ultic Palexeralfs

Typical pedon: Penstock very gravelly loam, located in map unit 313, forestland. (Colors are for dry soils unless otherwise noted). Surface area is covered by 5 to 10 percent stones.

A—0 to 12 inches; light yellowish brown (10YR 6/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; weak fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and many fine and medium roots; many very fine interstitial pores; 10 percent stones and 50 percent gravel; moderately acid (pH 6.0); clear wavy boundary.

BA—12 to 27 inches; light brown (7.5YR 6/4) very gravelly loam, strong brown (7.5YR 5/6) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine, and few coarse roots; many very

fine interstitial pores; few thin clay films on faces of peds; 10 percent cobbles and 35 percent gravel; moderately acid (pH 6.0); clear wavy boundary.

Bt1—27 to 44 inches; reddish yellow (7.5YR 6/6) very gravelly loam, strong brown (7.5YR 5/6) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine and few fine roots; many very fine tubular pores; many thin clay films on faces of peds; 5 percent cobbles and 35 percent gravel; moderately acid (pH 6.0); clear wavy boundary.

Bt2—44 to 63 inches; reddish yellow (7.5YR 6/6) very gravelly loam, strong brown (7.5YR 5/6) moist; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine tubular pores; many thin and common moderately thick clay films on faces of peds; 5 percent cobbles and 30 percent gravel of weathered rock; moderately acid (pH 6.0); abrupt wavy boundary.

Cr—63 to 73 inches; moderately weathered metavolcanic rock with fractures 1/2 to 1 inch apart.

Type location: On Little Dyer Mountain about 2 miles east of Lake Almanor; 2.3 miles west of bridge to shallow borrow pit then 0.4 mile west on log trail to landing; about 1,000 feet north and 1,700 feet east of the southwest corner of Sec. 15, T.28 N., R.8 E.

Range in Characteristics:

Soil moisture: Usually dry from August through November and is moist in some or all parts the rest of the time. Xeric moisture regime.

Soil temperature: 42 to 46 degrees F.

Base saturation: 30 to 50 percent.

Rock fragments: Surface, 0 to 25 percent stones.

A horizon:

Hue—10YR, 7.5YR.
Value—4 through 6 dry, 3 to 4 moist.
Chroma—2 through 4, dry or moist.
Texture—Very gravelly sandy loam, stony loam, or very stony loam.
Rock fragments—35 to 60 percent, mostly gravel.
Reaction—Medium acid through neutral.

BA horizon:

Hue—10YR, 7.5YR.
Value—5 to 6 dry, 4 to 5 moist.
Chroma—3 through 6, dry or moist.
Rock fragments—35 to 50 percent, mostly gravel.
Reaction—Medium acid or slightly acid.

Bt horizon:

Hue—10YR, 7.5YR.
 Value—5 to 6 dry, 3 to 6 moist.
 Chroma—4 through 6, dry or moist.
 Clay content—Increases with depth and ranges from 18 to 27 percent.
 Rock fragments—35 to 50 percent, mostly gravel.
 Reaction—Medium acid or slightly acid.

Pequop series

The Pequop series consists of deep, well drained soils on back slopes of mountains. These soils formed in material weathered from volcanic rocks. Slopes range from 15 to 50 percent.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Typic Argixerolls

Typical pedon: Pequop very cobbly loam, located in map unit 315, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 3 inches; dark grayish brown (10YR 4/2) very cobbly loam, very dark brown (10YR 2/2) moist; weak fine and medium granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine and fine interstitial pores; 20 percent cobbles, 10 percent stones, 25 percent gravel; neutral (pH 7.0); clear smooth boundary.

A2—3 to 8 inches; dark grayish brown (10YR 4/2) very gravelly loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine and few medium and coarse roots; many very fine and fine tubular and interstitial pores; 10 percent cobbles, 5 percent stones, 30 percent gravel; neutral (pH 7.0); clear smooth boundary.

BAt—8 to 19 inches; grayish brown (10YR 5/2) very gravelly loam; very dark grayish brown (10YR 3/2) moist; moderate medium and coarse subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few medium and coarse, many very fine and fine roots; many very fine and fine tubular and interstitial pores; few thin clay films bridging mineral grains; 15 percent cobbles, 5 percent stones, 35 percent gravel; neutral (pH 7.0); gradual wavy boundary.

Bt1—19 to 36 inches; grayish brown (10YR 5/2) and light brownish gray (10YR 6/2) very gravelly clay loam, dark grayish brown (10YR 4/2) moist; moderate medium and coarse angular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic;

common very fine and fine roots; many very fine and common fine, tubular and interstitial pores; common thin clay films on faces of peds and in pores; 15 percent cobbles, 3 percent stones, 35 percent gravel; neutral (pH 7.0); gradual wavy boundary.

Bt2—36 to 50 inches; light yellowish brown (10YR 6/4) very cobbly clay loam, dark yellowish brown (10YR 4/4) moist; strong medium and coarse angular blocky structure; hard, friable, sticky and plastic; common very fine and fine roots; many very fine and common fine tubular and interstitial pores; common moderately thick clay films on faces of peds and in pores; 20 percent cobbles, 5 percent stones, 30 percent gravel; neutral (pH 7.0); abrupt irregular boundary.

R—50 to 55 inches; strongly fractured basalt. Soil fills cracks that are 4 to 12 inches apart.

Type location: Located on the road to Observation Peak lookout; 1,300 feet west and 2,100 feet south of the northeast corner of Sec. 28, T.34 N., R.16 E.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry mid-July through October. Xeric moisture regime that borders on aridic.

Soil temperature: 43 to 47 degrees F.

Mollic epipedon thickness: 10 to 20 inches, includes the Bt1 horizon in some pedons.

Depth to base of argillic horizon: 40 to 60 inches.

Control section:

Clay content—20 to 35 percent;

Rock fragments—40 to 70 percent, dominantly pebbles. Lithology of fragments are volcanic rocks such as rhyolite and tuff.

Reaction—Neutral or slightly alkaline.

A horizons:

Value—3 through 5 dry, 2 through 4 moist.

Chroma—1 through 3, dry or moist.

Organic matter content—2 to 5 percent.

Bt horizons:

Hue—5YR through 10YR.

Value—3 through 5 moist, 5 or 6 dry.

Chroma—3 through 6 dry, 3 or 4 moist.

Texture—Very gravelly sandy clay loam, extremely gravelly sandy clay loam, or very gravelly clay loam.

Clay content—20 to 35 percent.

Rock fragments—40 to 70 percent, dominantly pebbles.

Structure—Subangular blocky.

Organic matter content—1 to 3 percent.

Petescreek series

The Petescreek series consists of moderately deep, well drained soils on mountain back slopes. These soils formed in residuum and colluvium weathered from andesite, tuff or basalt. Slopes range from 5 to 50 percent.

Taxonomic class: Fine-loamy, mixed, superactive, frigid Pachic Ultic Haploxerolls

Typical pedon: Petescreek gravelly loam, located in map unit 322, rangeland. (Colors are for dry soils unless otherwise noted).

- A1—0 to 5 inches; reddish gray (5YR 5/2) gravelly loam, dark reddish brown (5YR 3/2) moist; moderate coarse platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine interstitial and common fine interstitial and tubular pores; 25 percent gravel; slightly acid (pH 6.5); clear wavy boundary.
- A2—5 to 10 inches; reddish gray (5YR 5/2) gravelly loam, dark reddish brown (5YR 3/2) moist; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, common fine and few medium roots; many very fine interstitial and tubular pores; 25 percent gravel; neutral (pH 7.0); clear wavy boundary.
- Bt—10 to 17 inches; reddish gray (5YR 5/2) gravelly loam, dark reddish brown (5YR 3/2) moist; moderate fine and medium subangular blocky structure; hard, friable, slightly sticky and plastic; common very fine, common fine and medium and few coarse roots; many very fine interstitial and tubular pores; many thin clay films as bridges between mineral grains and on peds; 25 percent gravel; neutral (pH 7.0); clear wavy boundary.
- BC—17 to 27 inches; reddish gray (5YR 5/2) cobbly loam, dark reddish brown (5YR 3/2) moist; moderate fine and medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine, few fine, medium and coarse roots; many very fine interstitial and tubular, and common fine tubular pores; 15 percent cobbles and 15 percent gravel; neutral (pH 7.0); abrupt wavy boundary.
- Cr1—27 to 39 inches; slightly weathered andesite; upper 7 inches breaks into coarse subangular blocks and below this it separates into cobble-size fragments; fractures about 3 inches apart, some filled with fine roots and soil; can be dug with a spade or auger, broken in hands and scratched with a fingernail; some fragments do not slake in water.
- Cr2—39 to 60 inches; slightly weathered andesite.

Type location: About 5.1 miles southwest of Ravendale; 2 miles south of Ravendale on U.S. Hwy 395 to Horse Lake Road, 2.8 miles west on Horse Lake Road, then 1.2 miles west on trail and 200 feet south of trail; 1,400 feet west and 200 feet south of northeast corner of Sec. 9, T.33 N., R.14 E., MDBM.

Range in Characteristics:

Soil moisture: Usually dry in all parts from August 1 to November 1, moist from December 1 to May 15. Xeric moisture regime.

Soil temperature: 43 to 47 degrees F.

Solum thickness and depth to a paralithic contact: 20 to 40 inches.

Mollic epipedon: 22 to 36 inches thick and includes part or all of the B horizon.

Organic matter: 1 to 3 percent.

Clay content: 20 to 25 percent.

A horizon:

Hue—10YR, 5YR, 7.5YR.

Value—4 to 5 dry, 2 to 3 moist.

Chroma—2 to 3, dry or moist.

Texture—Gravelly loam, stony loam, very gravelly loam or cobbly sandy loam.

Rock fragments: 15 to 45 percent.

Structure—Upper part of the A horizon is strong or moderate coarse or very coarse platy or is strong medium granular.

B horizon:

Hue—7.5YR, 5YR.

Value—4 to 5 dry, 3 moist.

Chroma—2 through 4, dry or moist.

Rock fragments—20 to 30 percent, mostly gravel and cobbles.

Pickup series

The Pickup series consists of moderately deep, well drained soils on mountain back slopes. These soils formed in residuum and colluvium weathered from basalt or andesite. Slopes range from 30 to 50 percent.

Taxonomic class: Clayey-skeletal, smectitic, mesic Aridic Argixerolls

Typical pedon: Pickup very stony loam, located in map unit 404, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 3 inches; grayish brown (10YR 5/2) very stony loam, very dark grayish brown (10YR 3/2) moist; weak very fine subangular blocky structure parting to moderate very fine granular; slightly hard, very friable, sticky and plastic; many very fine and fine roots; common very fine vesicular and tubular pores; 15 percent stones, 15 percent cobbles, and 10 percent gravel; neutral (pH 7.0); clear wavy boundary.

A2—3 to 10 inches; dark grayish brown (10YR 4/2) very stony loam, very dark grayish brown (10YR 3/2) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine and common coarse roots; common very fine tubular and interstitial pores; 15 percent stones; 10 percent cobbles, 20 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt1—10 to 20 inches; brown (10YR 4/3) very gravelly clay, dark brown (10YR 3/3) moist; moderate medium prismatic structure parting to strong medium and coarse angular blocky; hard, friable, very sticky and very plastic; common very fine and few medium roots; common very fine tubular and interstitial pores; common faint clay films on faces of peds; 40 percent gravel; many pressure faces; neutral (pH 7.0); clear wavy boundary.

Bt2—20 to 26 inches; brown (10YR 5/3) very gravelly clay, dark brown (10YR 3/3) moist; moderate medium prismatic structure parting to strong medium and coarse angular blocky; hard, friable, very sticky and very plastic; common very fine and fine and few medium roots; common very fine interstitial and few very fine tubular pores; common distinct clay films on faces of peds; 45 percent gravel, 5 percent cobbles; many pressure faces; neutral (pH 7.0); abrupt wavy boundary.

R—26 to 30 inches; hard massive basalt with few fractures in upper inch and with some soil in fractures.

Type location: About 650 feet east and 1,700 feet south of the northwest corner of Sec. 26, T.31 N., R.17 E.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry in summer and fall. Aridic moisture regime that borders on xeric.

Soil temperature: 47 to 52 degrees F.

Depth to bedrock: 20 to 40 inches to a lithic contact.

Control section:

Clay content—40 to 55 percent.

Rock fragments—35 to 60 percent, mainly pebbles and cobbles.

Reaction—Neutral to moderately alkaline.

A and AB horizons:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Bt1 horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry.

Chroma—2 through 4, dry or moist.

Texture—Very gravelly clay loam or very gravelly clay.

Structure—Prismatic, angular blocky, or subangular blocky.

Consistence—Slightly hard or hard; friable or very friable; moderately sticky or very sticky and moderately plastic or very plastic.

Clay content—35 to 45 percent.

Other features—In some pedons, this horizon is part of the mollic epipedon when chroma is less than 4.

Bt2 horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 through 5 moist.

Chroma—3 or 4, dry or moist.

Structure—Prismatic or subangular blocky.

Clay content—50 to 60 percent.

Reaction—Neutral to moderately alkaline.

Bt3 horizon (when present):

Texture—Very gravelly clay or very gravelly clay loam.

Clay content—35 to 45 percent.

Rock fragments—35 to 60 percent.

Other features—Some pedons have identifiable secondary carbonates as coats on rock fragments or filaments on faces of peds.

Pit taxadjunct

The Pit taxadjunct consists of very deep, moderately well drained soils on basin flood plains. These soils formed in alluvium from volcanic rocks. Slopes range from 0 to 2 percent.

Taxonomic class: Fine, smectitic, mesic Xeric Epiaquepts

Typical pedon: Pit clay, located in map unit 324, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 3 inches; dark gray (10YR 4/1) clay, very dark gray (10YR 3/1) moist; moderate very fine and fine

granular structure; very hard, very firm, very sticky and very plastic; common very fine and fine roots; common very fine interstitial pores; vertical cracks 1 to 5 cm wide and 10 to 30 cm apart; neutral (pH 7.0); clear wavy boundary.

Bss1—3 to 12 inches; dark gray (10YR 4/1) clay, very dark gray (10YR 3/1) moist; strong coarse and very coarse prismatic structure parting to strong medium and coarse angular blocky; extremely hard, very firm, very sticky and very plastic; common very fine and fine roots; few very fine tubular pores; vertical cracks 1 to 5 cm wide and 10 to 30 cm apart; few slickensides and wedge-shaped aggregates; many pressure faces; neutral (pH 7.0); clear wavy boundary.

Bss2—12 to 24 inches; dark gray (10YR 4/1) clay, very dark gray (10YR 3/1) moist; strong coarse prismatic structure parting to strong medium and coarse angular blocky; extremely hard, very firm, very sticky and very plastic; common very fine and few fine and medium roots; common very fine interstitial pores; vertical cracks 1 to 5 cm wide and 10 to 30 cm apart; slickensides; many wedge-shaped aggregates tilted 30 degrees from horizontal; many pressure faces; slightly alkaline (pH 7.5); clear wavy boundary.

Bss3—24 to 37 inches; dark grayish brown (10YR 4/2) clay, very dark gray (10YR 3/1) moist; moderate coarse prismatic structure parting to strong medium and coarse angular blocky; extremely hard, very firm, very sticky and very plastic; few fine roots; common very fine interstitial pores; vertical cracks 0.5 cm to 1.5 cm wide slickensides; many wedge-shaped aggregates tilted 30 degrees from horizontal; many pressure faces; slightly alkaline (pH 7.5); gradual wavy boundary.

Bk1—37 to 49 inches; light brownish gray (2.5Y 6/2) clay loam, dark grayish brown (2.5Y 4/2) moist; moderate medium and coarse angular blocky structure; very hard, friable, very sticky and very plastic; few very fine roots; few very fine tubular and interstitial pores; few 5 to 15 mm lime concretions; strongly calcareous with common fine and medium filaments and threads of lime; moderately alkaline (pH 8.0); clear wavy boundary.

Bk2—49 to 60 inches; light gray (5Y 7/2) clay loam, dark grayish brown (2.5Y 4/2) moist; few fine distinct yellowish brown (10YR 5/4) mottles, dark yellowish brown (10YR 4/4) moist; massive; hard, friable, sticky and plastic; few very fine roots; few very fine tubular and interstitial pores; strongly calcareous with common fine filaments and threads of lime; moderately alkaline (pH 8.0).

Type location: About 5.0 miles south of Madeline, 1,200 feet east of US Hwy 395 and 100 feet west of canal; about 1,600 feet north and 100 feet west of the southeast corner of Sec. 5, T.36 N., R.13E.

Range in Characteristics:

Soil moisture: Aquic moisture regime.

Soil temperature: 47 to 54 degrees F.

Mollic epipedon and depth to carbonates: 20 to 26 inches.

Cracks: 1 to 5 cm wide at a depth of 20 to 26 inches.

The cracks open and close once each year. They remain open during the period of July through October and remain closed the rest of the year.

Slickensides: Common to many intersecting slickensides are in all or part of the Bss horizon.

A and Bss horizon:

Hue—10YR, N.

Value—3 to 5 dry, 2 to 3 moist.

Chroma—0 to 2, dry or moist.

Texture—Silty clay loam, silty clay or clay.

Reaction—Neutral or slightly alkaline.

Bk horizon:

Hue—10YR, 2.5Y.

Value—4 to 6 dry, 2 to 4 moist.

Chroma—1 to 2, dry or moist.

Texture—Silty clay loam, silty clay, or clay with 35 to 60 percent clay.

Reaction—Slightly alkaline or moderately alkaline.

Lime—Soft masses or in seams.

C horizon (when present):

Hue—10YR, 2.5Y, 5Y.

Value—4 through 7 dry, 3 to 4 moist.

Chroma—2 to 3, dry or moist.

Mottles—Distinct or prominent mottles are present in some part of this horizon below a depth of 40 inches.

Texture—Silt loam, sandy clay loam, clay loam, or silty clay loam.

Reaction—Slightly alkaline or moderately alkaline and in most pedons, calcareous.

Remarks:

The soils mapped as Pit in the area are taxadjuncts to the series and classify as Epiaquerts. They do not have an apparent high water table, but are seasonally wet due to ponding and a perched water table. This difference does not significantly affect use and management.

Plinco series

The Plinco series consists of very deep, moderately well drained soils on alluvial fans. These soils formed in granitic alluvium. Slopes range from 2 to 9 percent.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Cumulic Haploxerolls

Typical pedon: Plinco loam, located in map unit 328, pasture. (Colors are for dry soils unless otherwise noted).

A1—0 to 5 inches; dark grayish brown (10YR 4/2) loam, black (10YR 2/1) moist; moderate medium granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine interstitial pores; neutral (pH 7.0); clear wavy boundary.

A2—5 to 11 inches; dark grayish brown (10YR 4/2) sandy loam, black (10YR 2/1) moist; moderate fine and medium angular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and many fine roots; many very fine interstitial pores; 10 percent 2 to 5 mm gravel; neutral (pH 7.0); gradual wavy boundary.

A3—11 to 30 inches; dark grayish brown (10YR 4/2) gravelly sandy loam, very dark gray (10YR 3/1) moist; moderate medium angular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, many fine and few medium roots; many very fine interstitial pores; 20 percent 2 to 5 mm gravel; neutral (pH 7.0); clear wavy boundary.

Ab1—30 to 47 inches; dark gray (10YR 4/1) gravelly sandy loam, black (N 2/0) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine, common fine and few medium roots; many very fine interstitial pores; 20 percent 2 to 5 mm gravel; neutral (pH 7.0); clear wavy boundary.

Ab2—47 to 58 inches; grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; massive; slightly hard, very friable, sticky and plastic; few very fine and fine roots; many very fine interstitial pores; 25 percent 2 to 5 mm gravel; neutral (pH 7.0); clear wavy boundary.

C—58 to 64 inches; light brownish gray (2.5Y 6/2) gravelly loam, dark grayish brown (2.5Y 4/2) moist; common fine distinct light yellowish brown (10YR 6/4) mottles, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, sticky and plastic; few very fine roots; many very fine interstitial pores; 25 percent 2 to 5 mm gravel; neutral (pH 7.0); clear wavy boundary.

Type location: About 1.05 miles east of the town of Milford on US Hwy 395 and 0.15 mile south of US Hwy 395; 800 feet north and 1,200 feet east of the southwest corner of Sec. 25, T.27, R.14. E.

Range in Characteristics:

Soil moisture: Usually dry from July 15 to November 1, moist from November 15 to June 1. Xeric moisture regime.

Soil temperature: 47 to 50 degrees F.

Thickness of the A horizon and depth to mottles: 40 to 60 inches.

Control section:

Rock fragments—15 to 20 percent gravel.

Clay content—12 to 18 percent clay.

A horizon:

Hue—10YR, N.

Value—3 through 5 dry, 2 to 3 moist.

Chroma—0 through 3, dry or moist.

C horizon:

Hue—10YR, 2.5Y, 5Y.

Value—6 to 7 dry, 4 to 5 moist.

Chroma—2 to 3, dry or moist.

Texture—Gravelly loam or gravelly sandy loam with 15 to 35 percent gravel.

Puls series

The Puls series consists of shallow, well drained soils on plateaus. These soils formed in residuum weathered from volcanic rocks. Slopes range from 2 to 9 percent.

Taxonomic class: Clayey, smectitic, mesic, shallow Abruptic Xeric Argidurids

Typical pedon: Puls very cobbly loam, located in map unit 329, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 2 inches; brown (10YR 5/3) very cobbly loam, dark brown (10YR 3/3) moist; moderate thick and medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine interstitial pores, 40 percent cobbles, 10 percent gravel; slightly acid (pH 6.5); clear smooth boundary.

BAt—2 to 6 inches; brown (7.5YR 5/4) clay loam, dark brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, friable, sticky and plastic; few very fine roots; common very fine tubular

and interstitial pores; few thin clay films bridging mineral grains; 10 percent gravel; neutral (pH 7.0); abrupt wavy boundary.

Bt—6 to 15 inches; light brown (7.5YR 6/4) silty clay, dark brown (7.5YR 4/4) moist; strong coarse and medium prismatic structure; very hard, friable, very sticky and very plastic; few very fine roots mainly along the faces of the peds; few very fine tubular pores; many thick clay films on faces of peds and few in pores; 5 percent gravel; neutral (pH 7.0); abrupt wavy boundary.

Bqm1—15 to 24 inches; indurated duripan with few medium manganese mottles, few laminae plates of silica, extremely hard, extremely firm, few very fine horizontal roots on top of duripan.

Bqm2—24 to 31 inches; strongly cemented hardpan; massive; extremely hard; extremely firm; abrupt smooth boundary.

R—31 to 35 inches; hard basalt rock with silica coatings.

Type location: About 0.75 miles going southwest on dirt road from the intersection of roads going towards Painters Flat and Shinn Ranch, 800 feet north and 2,200 feet west of the southeast corner of Sec. 25, T.34 N., R.16. E.

Range in Characteristics:

Soil moisture: Usually dry from June until October or early November, moist in some or all parts the rest of the time. Aridic moisture regime bordering on xeric.

Soil temperature: 47 to 55 degrees F.

Depth to duripan: 7 to 20 inches.

Depth to hard fractured basalt: 11 to 60 inches.

A horizon:

Hue—10YR, 7.5YR.

Value—5 to 6 dry, 3 to 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Loam, heavy loam, or clay loam.

Rock modifier—Very or extremely stony or cobbly.

Structure—Weak or moderate granular or platy structure. In some pedons this horizon is massive but has slightly hard consistence.

Reaction—Slightly acid or neutral.

B horizon:

Hue—7.5YR, 5YR.

Value—3 to 5 dry.

Chroma—2 through 4, dry.

Texture—Clay loam.

Clay content—30 percent clay or less.

Structure—Granular, subangular blocky or weak

platy structure.

Reaction—Slightly hard or hard, and is neutral to medium acid.

Quartzburg series

The Quartzburg series consists of moderately deep, excessively drained soils on mountain back slopes. These soils formed in residuum and colluvium weathered from granite. Slopes range from 30 to 75 percent.

Taxonomic class: Sandy-skeletal, mixed, frigid Dystric Xerorthents

Typical pedon: Quartzburg stony loamy sand, located in map unit 332, rangeland. (Colors are for dry soils unless otherwise noted). Surface area is covered by 10 percent stones and 5 percent cobbles.

A—0 to 7 inches; grayish brown (10YR 5/2) stony loamy sand, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; 20 percent gravel, 10 percent stones, and 3 percent cobbles; slightly acid (pH 6.5); clear smooth boundary.

AC—7 to 18 inches; light brownish gray (10YR 6/2) very gravelly loamy coarse sand, brown (10YR 4/3) moist; weak very fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and few fine and medium roots; many very fine interstitial pores; 40 percent gravel, 5 percent stones; slightly acid (pH 6.5); clear smooth boundary.

C—18 to 26 inches; very pale brown (10YR 7/3) very gravelly loamy coarse sand, brown (10YR 4/3) moist; weak very fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine, fine and medium roots; many very fine interstitial pores; 5 percent lamellae; 40 percent gravel, 10 percent stones; slightly acid (pH 6.5); clear wavy boundary.

Cr—26 to 30 inches; mixed hard and soft, weathered granite; roots penetrate fractures.

Type location: About 0.5 mile northeast of Deans Meadow, 0.2 mile northwest of intersection at the sharp turn near the east side of Section 10, 250 feet uproad from a K-tag, 200 feet downslope from road, 2,600 feet north and 600 feet west of the southeast corner of Sec. 10, T.31 N., R.11 E.

Range in Characteristics:

Soil moisture: 45 to 90 days following the summer solstice. Xeric moisture regime.

Soil temperature: 42 to 47 degrees F.

Depth to soft bedrock: 20 to 40 inches.

Control section:

Rock fragments—35 to 80 percent.

Base saturation—35 to 60 percent.

Reaction—Neutral through moderately acid.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 through 3 dry or moist.

Rock fragments—0 to 15 percent stones, 0 to 5 percent cobbles, 15 to 35 percent gravel, and 15 to 45 percent total gravel.

AC and C horizons:

Value—6 through 8 dry, 3 through 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Loamy coarse sand or loamy sand.

Clay content—2 to 10 percent.

Rock fragments—0 to 10 percent stones, 0 to 5 percent cobbles, 35 to 75 percent gravel, and 35 to 80 percent total.

Ragtown series

The Ragtown series consists of very deep, moderately well drained soils on remnant lake terraces. These soils formed in material weathered from mixed lacustrine sediments. Slopes range from 0 to 2 percent.

Taxonomic class: Fine, smectitic, calcareous, mesic Typic Torriorthents

Typical pedon: Ragtown loam, located in map unit 193, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 1 inch; pale brown (10YR 6/3) loam, dark grayish brown (10YR 4/2) moist; moderate very thin and thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine interstitial pores; slightly effervescent, lime is disseminated; moderately alkaline (pH 8.0); clear wavy boundary.

A2—1 to 4 inches; light gray (10YR 7/2) loam, brown (10YR 4/3) moist; moderate thick and very thick platy structure; hard, very friable, sticky and plastic; few very fine roots; many very fine vesicular and

interstitial pores; slightly effervescent, lime is disseminated; moderately alkaline (pH 8.0); abrupt wavy boundary.

C1—4 to 11 inches; light brownish gray (10YR 6/2) silty clay, brown (10YR 4/3) moist; moderate medium and coarse prismatic structure that parts to strong medium and coarse angular blocky; hard, friable, very sticky and very plastic; common very fine and few fine roots; common very fine tubular pores; few 0.5 mm ostracod shells; slightly effervescent, lime is disseminated; strongly alkaline (pH 8.6); clear wavy boundary.

C2—11 to 17 inches; pale brown (10YR 6/3) silty clay loam, brown (10YR 4/3) moist; weak medium and coarse prismatic structure that parts to moderate medium and coarse angular blocky; hard, very friable, very sticky and very plastic; common very fine and few fine and medium roots; few 0.5 mm ostracod shells; slightly effervescent, lime is disseminated; strongly alkaline (pH 8.6); clear wavy boundary.

Cky—17 to 30 inches; pale brown (10YR 6/3) silty clay loam, brown (10YR 4/3) moist; weak medium and coarse subangular blocky structure; hard, very friable, sticky and plastic; common very fine roots; common very fine interstitial pores; few fine soft filaments of lime; slightly effervescent, lime is disseminated; strongly alkaline (pH 8.6); clear wavy boundary.

Ck—30 to 41 inches; very pale brown (10YR 7/3) silty clay loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, sticky and plastic; few very fine roots; common very fine interstitial pores; common fine soft filaments and threads of lime; strongly effervescent, lime is disseminated; strongly alkaline (pH 8.6); clear wavy boundary.

C—41 to 60 inches; pale yellow (5Y 7/3) stratified loam, olive (5Y 4/3) moist; weak thin and medium platy structure; hard, friable, sticky and plastic; no roots; few very fine tubular pores; many fine black (N 2/0) moist relict iron-manganese stains; many 0.5 mm ostracod shells; slightly effervescent, lime is disseminated; strongly alkaline (pH 8.6).

Type location: About 2.5 miles south of High Rock Ranch, about 1.5 miles southeast of Stacy and about 2.3 miles south of Southern Pacific railroad tracks along Calneva road, 40 feet east of trail at the west quarter corner of Section 12, T.27 N., R.17 E.

Range in Characteristics:

Soil moisture: Usually dry, intermittently moist for short periods in the winter and spring, dry May through November. Aridic moisture regime.

Soil temperature: 53 to 57 degrees F.

Depth to fine textured materials: 16 to 32 inches.

Control section:

Clay content—35 to 45 percent, with 25 to 35 percent clay in the upper part and 35 to 60 percent clay in the lower part.

Texture—Stratified silty clay loam, clay loam or sandy clay loam in the upper part and stratified clay, silty clay or silty clay loam in the lower part.

Reaction—Moderately alkaline to very strongly alkaline. Very strongly alkaline usually occurs in strongly saline—sodic affected areas.

Effervescence—Slightly effervescent to violently effervescent.

A horizon:

Hue—10YR through 5Y.

Value—5 through 7 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

C horizons:

Hue—10YR through 5Y.

Value—6 or 7 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Structure—Platy, subangular blocky, prismatic, or horizon is massive.

Consistence—Slightly hard or hard dry, moderately sticky or very sticky and moderately plastic or very plastic wet.

Salinity (EC)—0 to 32 mmhos/cm.

Sodicity (SAR)—1 to 90.

Calcium carbonate equivalent—1 to 40 percent.

Gypsum content—0 to 5 percent.

Redoximorphic features—Relict redox concentrations of iron or manganese may be present in any subhorizon.

Other features—Horizons with secondary carbonates are present in some pedons. Some pedons have few fine soft masses of secondary gypsum.

A—0 to 3 inches; grayish brown (10YR 5/2) silty clay, dark grayish brown (10YR 4/2) moist; strong very fine and fine granular structure, slightly hard, very friable, very sticky and very plastic; common fine and very fine roots; common very fine and fine interstitial pores; neutral (pH 7.0); abrupt wavy boundary.

Bwss1—3 to 16 inches; grayish brown (10YR 5/2) silty clay, dark grayish brown (10YR 4/2) moist; moderate medium and coarse prismatic structure parting to strong medium and coarse angular blocky; very hard, friable, very sticky and very plastic; common fine and very fine tubular and few fine interstitial pores; common fine and few medium and coarse roots; few intersecting slickensides and few wedge-shaped aggregates tilt 30 to 60 degrees from horizontal; slightly alkaline (pH 7.5); clear smooth boundary.

Bwss2—16 to 27 inches; grayish brown (10YR 5/2) silty clay, dark grayish brown (10YR 4/2) moist; strong coarse and very coarse prismatic structure (peds are 4 to 14 inches in diameter); extremely hard, friable, very sticky and very plastic; common fine and very fine, few medium and coarse roots; common fine and very fine and few coarse and medium tubular pores; common intersecting slickensides and common wedge-shaped aggregates tilt 30 to 60 degrees from horizontal; primary cracks are 3 to 4 feet apart and 1 to 2 inches wide, secondary cracks are 8 to 14 inches apart and 1/2 to 3/4 inches wide; moderately alkaline (pH 8.0); gradual wavy boundary.

Bwss3—27 to 48 inches; grayish brown (10YR 5/2) silty clay, dark grayish brown (10YR 4/2) moist; strong coarse and very coarse angular blocky; very hard, friable, very sticky and very plastic; common fine and very fine and few medium and coarse roots; common fine, very fine and few tubular pores; common intersecting slickensides and common wedge-shaped aggregates tilt 30 to 60 degrees from horizontal; cracks between peds are 3/8 to 1/2 inches wide, with a few cracks 1 to 1 1/2 inches wide; moderately alkaline (pH 8.0); gradual wavy boundary.

Bw—48 to 60 inches; grayish brown (10YR 5/2) silty clay, dark grayish brown (10YR 4/2) moist; strong coarse and very coarse angular blocky structure; very hard, friable, very sticky and very plastic; few very fine and fine roots; few fine and very fine tubular pores; slightly effervescent with disseminated lime; very few cracks wider than 3/8 inches (1 crack is 1 inch wide); moderately alkaline (pH 8.0).

Type location: About 2 miles north of Termo and then left on dirt road 1.4 miles west and 110 feet south of fence, about 2,100 feet west and 110 feet south of the northeast corner of Sec. 21, T.35 N., R.13 E.

Ravendale series

The Ravendale series consists of very deep, moderately well drained soils in bolsons or on fans or terraces.

These soils formed in alluvium derived from volcanic rocks. Slopes range from 0 to 2 percent.

Taxonomic class: Fine, smectitic, mesic Chromic Haploxererts

Typical pedon: Ravendale silty clay, located in map unit 333, rangeland. (Colors are for dry soils unless otherwise noted).

Range in Characteristics:

Soil moisture: Usually moist during winter and early spring, dry the rest of the time. Aridic moisture regime bordering on xeric.

Soil temperature: 47 to 52 degrees F.

Cracks: On drying, large cracks (1/2 to 4 inches wide) extend from the surface to as deep as 50 inches forming large prisms. The cracks remain open during July through October for about 60 to 120 days and close with soil wetting in December or January and remain closed until the soil dries about July.

Slickensides: Few to common intersecting slickensides and few to common wedge shape aggregates are a depth of 5 to 48 inches.

Depth to carbonates: 40 to 60 inches.

A horizon:

Hue—10YR, 7.5YR, 2.5Y.

Value—4 through 6 dry, 3 to 4 moist.

Chroma—2 to 3, dry or moist.

Texture—Clay or silty clay.

Reaction—Neutral to moderately alkaline.

Structure—Very fine or fine granular.

Bss and Bw horizons:

Hue—10YR, 7.5YR, 2.5Y.

Value—5 to 6 dry, 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Clay or silty clay but ranges to include clay loam.

Structure—Medium, coarse, or very coarse prismatic or is prismatic parting to angular blocky.

Reaction—Slightly or moderately alkaline and noncalcareous to strongly calcareous with few to common fine filaments and threads of lime or gypsum in the lower part.

Lime—Few 5 to 10 mm lime concretions are below a depth of 50 inches in some pedons.

Redriver series

The Redriver series consists of moderately deep, somewhat excessively drained soils on plateaus. These soils formed in material weathered from basalt and volcanic ash. Slopes range from 0 to 9 percent.

Taxonomic class: Loamy-skeletal, isotic, frigid Andic Haploxerepts

Typical pedon: Redriver very gravelly sandy loam, located in map unit 339, forestland. (Colors are for dry soils unless otherwise noted).

A—0 to 6 inches; dark brown (10YR 3/3) very gravelly sandy loam, dark brown (7.5YR 3/2) moist; weak fine granular structure; soft, very friable, nonsticky and slightly plastic; common very fine, few fine and medium roots; many very fine interstitial pores; 5 percent stones, 30 percent gravel; sodium fluoride pH 10.0 after 2 minutes; slightly acid (pH 6.5); clear wavy boundary.

AB—6 to 16 inches; brown (7.5YR 4/4) extremely cobbly sandy loam, dark reddish brown (5YR 3/4) moist; weak fine granular structure; soft, very friable, nonsticky and slightly plastic; common very fine, few fine and medium roots; many very fine interstitial pores; 25 percent cobbles, 50 percent gravel; sodium fluoride pH 10.0 after 2 minutes; moderately acid (pH 6.0); clear wavy boundary.

Bw1—16 to 22 inches; strong brown (7.5YR 4/6) extremely gravelly sandy loam, dark brown (7.5YR 3/4) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine, fine and medium roots; common very fine tubular and many very fine interstitial pores; 20 percent cobbles, 60 percent gravel; sodium fluoride pH 9.1 after 2 minutes; moderately acid (pH 6.0); gradual wavy boundary.

Bw2—22 to 31 inches; strong brown (7.5YR 4/6) extremely gravelly sandy loam, dark brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; 10 percent cobbles, 60 percent gravel; moderately acid (pH 6.0); gradual wavy boundary.

R—31 to 41 inches; fractured basalt; fractures are 3 to 9 inches apart horizontally and vertically. Fractures are 1/8 inch wide and are filled with soil and roots.

Type location: About 1 mile north of Westwood, CA; 1.2 miles north of Hwy 36 on Forest Service Road 29N08 to an old logging landing; 0.15 miles west on trail; 200 feet south of trail in a grove of large pine trees; 100 feet north and 50 feet east of the west 1/4 corner of Sec. 31, T.29 N., R.9 E.

Range in Characteristics:

Soil moisture: Usually dry from August 1 to November 1 (90 days) and is moist in some or all parts the rest of the time. Xeric moisture regime.

Soil temperature: 44 to 46 degrees F.

Solum thickness and depth to bedrock: 20 to 40 inches.

Surface rock fragments: 0 to 10 percent stones, 1 to 10 percent cobbles, and 15 to 30 percent gravel.

A horizon:

Hue—10YR, 7.5YR, 5YR.

Value—3 to 4 dry, 3 moist.
 Chroma—2 through 4, dry or moist.
 Texture—Stony sandy loam or very gravelly sandy loam.
 Rock fragments—30 to 50 percent.
 Clay content—5 to 12 percent.
 Reaction—Neutral or slightly acid.
 Sodium fluoride pH—10 to 11.
 Bulk density—0.7 to 0.85 g/cc.

Bw horizon:

Hue—7.5YR, 5YR.
 Value—4 to 5 dry, 3 to 4 moist.
 Chroma—4 through 6 moist.
 Texture—Very or extremely gravelly sandy loam or very or extremely cobbly sandy loam.
 Rock fragments—50 to 75 percent.
 Clay content—8 to 15 percent.
 Reaction—Slightly or medium acid.
 Sodium fluoride pH—9.0 to 10.0.
 Bulk density of the fine earth fraction—0.86 to 0.98 g/cc.

Rices series

The Rices series consists of very deep, poorly drained soils on lake terraces. These soils formed in lacustrine sediments and mixed alluvium. Slopes range from 0 to 2 percent.

Taxonomic class: Fine-silty, mixed, superactive, mesic Aquic Calcixerolls

Typical pedon: Rices clay loam, located in map unit 340, pasture. (Colors are for dry soils unless otherwise noted).

A—0 to 9 inches; dark grayish brown (10YR 4/2) clay loam, black (10YR 2/1) moist; weak very thin and thin platy structure; slightly hard, very friable, sticky and plastic; many very fine and common fine roots; many very fine interstitial pores; calcium carbonate equivalent is 3 percent; strongly effervescent with disseminated lime; moderately alkaline (pH 8.4); electrical conductivity is 3 mmhos; sodium adsorption ratio is 10; clear wavy boundary.

AB—9 to 16 inches; dark gray (10YR 4/1) and brown (10YR 4/3) clay loam, black (10YR 2/1) moist and dark brown (10YR 3/3) moist; weak fine and medium subangular blocky structure; slightly hard, very friable, sticky and plastic; common fine and few medium roots; common very fine interstitial and tubular pores; calcium carbonate equivalent is 1 percent; slightly

effervescent with disseminated lime; electrical conductivity is 4 mmhos; sodium adsorption ratio is 12; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bkn1—16 to 22 inches; light gray (10YR 7/2) clay loam, light olive brown (2.5Y 5/4) moist; common fine distinct brown mottles (10YR 4/3) moist; moderate medium and coarse angular blocky structure; hard, friable, sticky and plastic; few very fine and fine roots; common very fine interstitial pores; violently calcareous, lime segregated in common fine and medium soft masses; calcium carbonate equivalent is 30 percent; violently effervescent with disseminated lime; electrical conductivity is 6 mmhos; sodium adsorption ratio is 30; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bkn2—22 to 31 inches; white (2.5Y 8/2) loam, light yellowish brown (2.5Y 6/4) moist; 5 percent dark greenish gray (5BG 4/1) moist; moderate medium and coarse angular blocky structure; hard, very friable, sticky and plastic; few very fine and fine roots; common very fine interstitial pores; violently calcareous, lime segregated in common fine and medium soft masses; calcium carbonate equivalent is 32 percent; violently effervescent with disseminated lime; electrical conductivity is 7 mmhos; sodium adsorption ratio is 20; moderately alkaline (pH 8.0); clear wavy boundary.

Bkn3—31 to 40 inches; white (2.5Y 8/2) loam, light yellowish brown (2.5Y 6/4) moist; common fine distinct olive brown mottles (2.5Y 4/4) 5 percent dark greenish gray (5BG 4/1) moist; massive; hard, very friable, sticky and plastic; few fine and medium roots; common very fine interstitial pores; few 2 to 15 mm irregular lime concretions; calcium carbonate equivalent is 40 percent; violently effervescent with disseminated lime; electrical conductivity is 8 mmhos; sodium adsorption ratio is 15; moderately alkaline (pH 8.0); clear wavy boundary.

Bk1—40 to 55 inches; white (2.5Y 8/2) loam, light yellowish brown (2.5Y 6/4) moist; many medium and large prominent brown mottles (7.5YR 4/4) moist; common fine prominent yellowish brown mottles (10YR 5/6) moist; massive; hard, very friable, sticky and plastic; few very fine roots; common very fine interstitial pores; calcium carbonate equivalent is 38 percent; strongly effervescent with disseminated lime; electrical conductivity is 5 mmhos; sodium adsorption ratio is 12; moderately alkaline (pH 8.0); clear wavy boundary.

Bk2—55 to 65 inches; white (2.5Y 8/2) loam, light olive brown (2.5Y 5/4) moist; common fine distinct brown mottles (7.5YR 4/4) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine roots;

few very fine interstitial pores; 10 percent soft gravel size fragments; calcium carbonate equivalent is 17 percent; slightly effervescent with disseminated lime; electrical conductivity is 4 mmhos; sodium adsorption ratio is 10; moderately alkaline (pH 8.0).

Type location: About 1 mile northwest of Lake Leavitt, 0.6 mile west of Buffum Lane and about 1,900 feet south of Hwy 395; about 2,000 feet east and 2,700 feet north of the southwest corner of Sec. 17, T.29 N., R.13 E.

Range in Characteristics:

Soil moisture: Usually dry from mid-June to mid-November, moist the rest of the time. Aridic moisture regime bordering on xeric.

Soil temperature: 50 to 53 degrees F.

Mollic epipedon thickness: 10 to 19 inches.

Organic carbon: Decreases regularly with depth and is less than 0.6 percent below a depth of 20 inches.

Depth to the calcic horizon: 16 to 20 inches.

Control section:

Clay content—25 to 35 percent.

Texture—Clay loam, silty clay loam, or loam.

A horizon:

Value—4 to 5 dry, 2 to 3 moist.

Chroma—1 to 3, dry or moist.

Calcium carbonate equivalent—1 to 3 percent.

Electrical conductivity—2 to 4 mmhos.

SAR—5 to 12 percent.

Bk horizons:

Hue—10YR, 2.5Y.

Value—7 to 8 dry, 5 to 6 moist.

Chroma—2 through 4, dry or moist.

Calcium carbonate equivalent—Decreases with depth and ranges from 25 to 40 percent in the upper part and 15 to 25 percent in the lower part.

Electrical conductivity—4 to 8 mmhos in the upper part and 2 to 8 mmhos in the lower part.

SAR—5 to 30 percent.

Roop series

The Roop series consists of moderately deep, well drained soils on backslopes of mountains. These soils formed in residuum and colluvium weathered from basalt, andesite and volcanic ash. Slopes range from 5 to 50 percent.

Taxonomic class: Loamy-skeletal, isotic, frigid Vitrandic Dystrochrepts

Typical pedon: Roop very stony loam, located in map unit 191, forestland. (Colors are for dry soils unless otherwise noted).

A1—0 to 5 inches; brown (10YR 5/3) very stony loam, dark brown (10YR 3/3) moist; weak very fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine interstitial pores; 15 percent stones, 15 percent cobbles; 20 percent gravel; moderately acid (pH 5.8); clear wavy boundary.

A2—5 to 13 inches; brown (10YR 5/3) very gravelly sandy loam, dark brown (10YR 3/3) moist; weak very fine and fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine and common medium and coarse roots; many very fine interstitial pores; 10 percent cobbles; 40 percent gravel; moderately acid (pH 5.8); clear wavy boundary.

Bw1—13 to 27 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine and medium and common coarse roots; many very fine interstitial and common very fine tubular pores; 10 percent cobbles, 50 percent gravel; moderately acid (pH 6.0); clear wavy boundary.

Bw2—27 to 36 inches; pale brown (10YR 6/3) very cobbly loam, brown (10YR 4/3) moist, weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, common fine and few medium and coarse roots; many very fine interstitial pores; 10 percent stones, 15 percent cobbles and 30 percent gravel; moderately acid (pH 6.0); abrupt irregular boundary.

R—36 to 46 inches; hard andesite; (weathered in somewhat of a rind; a few horizontal pockets of fine and medium roots).

Type location: About 7 miles north along Eagle Lake Road (County Road A-1) from its intersection with Hwy 36 and 0.5 mile past the summit then west along dirt road; 3,000 feet south and 100 feet east of northwest corner of Sec. 32, T.31 N., R.11 E.

Range in Characteristics:

Soil moisture: Usually dry from July 15th to November 1st (107 days) and is moist in some or all parts the rest of the time. Xeric moisture regime.

Soil temperature: 42 to 46 degrees F.

Thickness of the umbric epipedon: 20 to 30 inches.

Depth to bedrock: 20 to 40 inches.

Control section:

Rock fragments—50 to 70 percent.

Clay content—8 to 15 percent clay.

Base saturation—35 to 50 percent.

A horizon:

Hue—10YR, 7.5YR.

Value—4 to 5 dry, 3 moist.

Chroma—2 through 4, dry or moist.

Texture—Very stony loam, very gravelly sandy loam, or extremely gravelly sandy loam.

Bw1 horizon:

Texture—Very gravelly loam, very cobbly loam, or extremely gravelly loam.

Reaction—Medium acid or strongly acid.

Bw2 horizon:

Hue—10YR, 7.5YR.

Value—5 to 6 dry, 3 to 4 moist.

Chroma—3 to 4, dry or moist.

Texture—Very gravelly loam, very cobbly loam, or extremely gravelly loam.

Reaction—Medium acid or strongly acid.

Rose Creek series

The Rose Creek series consists of very deep, poorly drained soils on flood plains. These soils formed in mixed alluvium. Slopes range from 0 to 2 percent.

Taxonomic class: Coarse-loamy, mixed, superactive, calcareous, mesic Fluvaquentic Endoaquolls

Typical pedon: Rose Creek loam, located in map unit 341, pasture. (Colors are for dry soils unless otherwise noted).

A1—0 to 5 inches; dark gray (10YR 4/1) loam, black (N 2/0) moist; massive; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; slightly effervescent with disseminated lime; moderately alkaline (pH 8.0); abrupt smooth boundary.

A2—5 to 16 inches; grayish brown (10YR 5/2) loamy sand, very dark grayish brown (10YR 3/2) moist; single grain; loose, nonsticky and nonplastic; common very fine and few fine roots; many very fine interstitial pores; slightly effervescent with disseminated lime; moderately alkaline (pH 8.0); clear smooth boundary.

A3—16 to 18 inches; brown (10YR 5/3) loamy sand, dark brown (10YR 3/3) moist, single grain; loose, nonsticky and nonplastic; common very fine roots; many very fine interstitial pores; moderately alkaline (pH 8.0); clear smooth boundary.

C1—18 to 30 inches; pale brown (10YR 6/3) stratified sandy loam, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; moderately alkaline (pH 8.0); clear smooth boundary.

C2—30 to 60 inches; pale brown (10YR 6/3) stratified loamy sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; few fine roots; many very fine interstitial pores; common medium redoximorphic depletions, dark gray (5Y 4/1) moist; slightly alkaline (pH 7.8).

Type location: About 500 feet north of the corrals, 10 feet north of a cross fence, 700 feet south and 500 feet west of the northeast corner of Sec. 33, T.25 N., R.17 E.

Range in Characteristics:

Soil moisture: Dry in mid-summer and early fall, moist in late fall, winter, spring and early summer. Saturated to within a depth of 10 inches of the surface for short periods during most years. Apparent seasonal water table is between 20 and 36 inches during the spring. Drained phases are recognized.

Soil temperature: 47 to 52 degrees F.

Mollic epipedon thickness: 10 to 18 inches.

Control section:

Clay content—8 to 18 percent.

Effervescence—Slightly effervescent through most of the profile, but individual horizons range from noneffervescent to violently effervescent in some pedons.

Reaction—Neutral to very strongly alkaline, depending on the presence of sodium and lime.

A horizon:

Hue—10YR or 2.5Y.

Value—4 or 5 dry, 2 or 3 moist, the surface 1 to 3 inches in some pedons has value of 7 dry and 4 moist as a result of flood deposition.

Chroma—1 or 2.

Other features—Buried A horizons are in some pedons.

C horizons:

Hue—10YR through 5Y.

Value—5 through 7 dry, 3 through 6 moist.

Chroma—1 through 3.

Texture—Averages sandy loam, fine sandy loam, very fine sandy loam, or loam with more than 15 percent fine sand and coarser particles. Includes stratified sand to silt loam and may include strata of coarse sand or silty clay loam.

Consistence—Very friable to friable.

Redox concentration—Mottles with hues of 2.5YR through 10YR and chroma of 3 through 8 are usually at a depth of 20 to 40 inches, but are as shallow as 3 inches in some pedons that are irrigated by controlled flooding.

Saddlerock series

The Saddlerock series consists of very deep, poorly drained or soils on flood plains. These soils formed in alluvium from volcanic rock. Slopes range from 0 to 2 percent.

Taxonomic class: Fine, smectitic, mesic Fluvaquentic Vertic Endoaquolls

Typical pedon: Saddlerock silty clay, located in map unit 348, pasture. (Colors are for dry soils unless otherwise noted).

A1—0 to 5 inches; dark gray (10YR 4/1) silty clay, black (N 2/0) moist; weak coarse prismatic structure parting to moderate coarse angular blocky; very hard, friable, very sticky and very plastic; many very fine roots; common very fine tubular and interstitial pores; slightly alkaline (pH 7.5); clear wavy boundary.

A2—5 to 12 inches; dark gray (10YR 4/1) silty clay, very dark grayish brown (10YR 3/2) moist; few fine distinct brown (10YR 5/3) mottles, dark brown (7.5YR 3/4) moist; weak coarse prismatic structure parting to moderate coarse angular blocky; hard, friable, very sticky and very plastic; many very fine and fine roots; common very fine and fine tubular pores; moderately alkaline (pH 8.0); clear wavy boundary.

AC—12 to 17 inches; variegated pale brown (10YR 6/3) and dark grayish brown (10YR 4/2) silty clay, dark brown (10YR 3/3) and black (10YR 2/1) moist; many fine distinct brown (7.5YR 5/4) mottles, dark brown (7.5YR 3/2) moist; moderate medium and coarse angular blocky structure; slightly hard, very friable, very sticky and very plastic; many very fine roots; many very fine and common fine tubular pores; moderately alkaline (pH 8.0); clear wavy boundary.

Ab—17 to 52 inches; dark gray (10YR 4/1) silty clay, black (10YR 2/1) moist; many fine distinct light brown

(7.5YR 6/4) mottles, brown (10YR 4/3) moist; massive; hard, very friable, very sticky and very plastic; few very fine roots; many very fine and fine tubular pores; moderately alkaline (pH 8.0); clear wavy boundary.

ACbg—52 to 60 inches; brown (10YR 4/3) and dark gray (10YR 4/1) clay, dark brown (10YR 3/3) and black (10YR 2/1) moist; many fine distinct reddish yellow (7.5YR 6/6) mottles, brown (7.5YR 4/4) moist; massive; hard, friable, very sticky and very plastic; few very fine roots; many very fine and fine tubular pores; many very dark gray (N 3/0), black (N 2/0) moist organic carbon stains and pieces; moderately alkaline (pH 8.0).

Type location: Secret Valley; about 2 miles north from the intersection of Karlo Road and Hwy 395 and then 500 feet east to site, about 2,000 feet west and 100 feet south of the northeast corner of Sec. 26, T.32 N., R.15 E.

Range in Characteristics:

Soil moisture: Usually moist from January through May because of seasonal high water table, dry the rest of the time.

Soil temperature: 47 to 51 degrees F.

Control section:

Texture—Clay or silty clay with 40 to 60 percent clay. Few to many fine to medium distinct brown, dark brown, reddish yellow and light brown mottles occur from 10 to over 60 inches.

Reaction—Slightly alkaline or moderately alkaline.

Organic matter content—2 to 4 percent.

Thickness of the mollic epipedon—12 to 18 inches.

A horizon:

Hue—10YR, N, 7.5YR

Value—4 to 5 dry, 2 to 3 moist.

Chroma—0 to 2, dry or moist.

Texture—Clay or silty clay.

Structure—Angular blocky or prismatic parting to angular blocky.

AC horizon:

Hue—10YR, 5Y.

Value—4 through 7 dry, 2 through 4 moist.

Chroma—2 through 3, dry or moist.

Structure—Moderate medium to coarse angular blocky.

Said series

The Said series consists of deep, well drained soils on mountain back slopes. These soils formed in residuum

and colluvium weathered from basalt or andesite. Slopes range from 5 to 50 percent.

Taxonomic class: Fine-loamy, isotic, frigid Andic Argixerolls

Typical pedon: Said gravelly loam, located in map unit 351, forestland. (Colors are for dry soils unless otherwise noted).

A1—0 to 7 inches; brown (7.5YR 4/2) gravelly loam, dark reddish brown (5YR 3/2) moist; weak fine and medium granular structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and fine interstitial pores; 15 percent rounded gravel; moderately acid (pH 6.0); clear smooth boundary.

A2—7 to 13 inches; brown (7.5YR 4/2) gravelly loam, dark brown (7.5YR 3/2) moist; weak fine and medium granular structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine and medium roots; many very fine and fine interstitial pores; 15 percent rounded gravel, 2 percent cobbles; moderately acid (pH 6.0); gradual wavy boundary.

Bt1—13 to 20 inches; reddish brown (5YR 4/3) gravelly loam, dark brown (7.5YR 3/3) moist; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and many medium and coarse roots; common very fine and fine tubular pores; few thin clay films on faces of peds; 20 percent gravel, 5 percent cobbles; moderately acid (pH 6.0); gradual wavy boundary.

Bt2—20 to 26 inches; reddish brown (5YR 4/3) gravelly loam, dark brown (7.5YR 3/3) moist; moderate medium angular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and common fine and medium roots; common very fine and fine tubular pores; common thin clay films on faces of peds and in pores; 20 percent gravel, 5 percent cobbles and stones; moderately acid (pH 6.0); gradual wavy boundary.

2Bt3—26 to 37 inches; dark reddish gray (5YR 4/2) very gravelly clay loam, dark brown (7.5YR 3/3) moist; moderate medium and coarse angular blocky structure; hard, friable, sticky and plastic; few very fine and common medium roots; common very fine and fine tubular pores; common moderately thick clay films on faces of peds and in pores; 25 percent gravel and 10 percent cobbles; rock fragments are soft and saprolitic; strongly acid (pH 5.5); gradual wavy boundary.

2Bt4—37 to 56 inches; dark reddish gray (5YR 4/2) very cobbly clay loam, dark brown (7.5YR 3/2) moist; weak

medium angular blocky structure; hard, friable, sticky and plastic; few fine and common medium roots; common very fine tubular pores; common moderately thick reddish brown (5YR 5/4) clay films, (5YR 4/4) moist on peds and in pores; 20 percent gravel and 40 percent cobbles; rock fragments are soft and saprolitic; dark brown (7.5YR 4/4) clay films on rock fragments; strongly acid (pH 5.5); clear irregular boundary.

Cr—56 to 66 inches; weathered andesite with clay films, soil and roots between some fractures; cuts with knife, digs with spade or auger with some difficulty.

Type location: about 0.5 mile southwest of Cleghorn Reservoir; about 1,700 feet west and 2,000 feet north of the southeast corner of Sec. 35, T.34 N., R.10 E.

Range in Characteristics:

Soil moisture: The soil moisture control section (7 to 22 inches) is moist in all parts from early December to mid May. It is dry in all parts from early August to early November for 90 to 100 days. Xeric moisture regime.

Soil temperature: 41 to 47 degrees F.

Summer soil temperature: 50 to 54 degrees F.

Mollic epipedon thickness: 24 to 36 inches; includes the Bt1 and Bt2 horizons.

Depth to base of argillic horizon: 40 to 60 inches.

Depth to bedrock: 40 to 60 inches to a paralithic contact. The paralithic materials below the contact are weathered volcanic rock such as andesite or basalt.

Control section:

Clay content—18 to 25 percent.

Rock fragments—20 to 30 percent, mainly gravel.

Lithology of fragments are volcanic rocks such as andesite or basalt.

Base saturation by sum of cations—50 to 75 percent.

A horizons:

Hue—10YR, 7.5YR, 5YR.

Value—4 to 5 dry, 2 to 3 moist.

Chroma—2 to 3, dry or moist.

Clay content—15 to 20 percent.

Rock fragments—15 to 30 percent.

Organic matter content—2 to 5 percent.

Reaction—Moderately acid through neutral.

Bt1 and Bt2 horizons:

Hue—7.5YR, 5YR.

Value—4 to 5 dry, 3 to 4 moist.

Chroma—2 through 6, dry or moist.

Texture—Gravelly loam or cobbly loam.

Clay content—20 to 25 percent.

Rock fragments—15 to 35 percent.
 Reaction—Moderately acid through neutral.
 Organic matter content—1 to 5 percent.

2Bt horizons:

Hue—7.5YR, 5YR.
 Value—4 to 5 dry, 3 to 4 moist.
 Chroma—2 through 6, dry or moist
 Texture—Very gravelly clay loam or very cobbly clay loam.
 Clay content—27 to 35 percent.
 Rock fragments—35 to 60 percent.
 Pararock fragments—0 to 15 percent.
 Reaction—Strongly acid through neutral.
 Organic matter content—1 to 5 percent.

Scaribou series

The Scaribou series consists of very deep, well drained soils on mountains. These soils formed in residuum and colluvium weathered from nonmarine sediments or metavolcanics. Slopes range from 5 to 75 percent.

Taxonomic class: Loamy-skeletal, mixed, active, frigid Ultic Palexeralfs

Typical pedon: Scaribou very gravelly sandy loam, located in map unit 354, forestland. (Colors are for dry soils unless otherwise noted).

A—0 to 3 inches; brown (7.5YR 5/2) very gravelly sandy loam, dark brown (7.5YR 3/2) moist; moderate fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine, fine and medium roots; many very fine interstitial pores; 20 percent 2 to 5 mm gravel and 30 percent 5 to 75 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

BA1—3 to 12 inches; light brown (7.5YR 6/4) very gravelly sandy loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine and medium, and few coarse roots; many very fine interstitial pores; 20 percent 2 to 5 mm gravel and 30 percent 5 to 75 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

BA2—12 to 19 inches; pink (7.5YR 7/4) very gravelly sandy loam, brown (7.5YR 5/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine, fine, medium and coarse roots; common very fine interstitial pores; 20 percent 2 to 5 mm gravel and 30 percent 5 to 75 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

Bt1—19 to 33 inches; pink (7.5YR 7/4) very gravelly sandy clay loam, brown (7.5YR 5/4) moist; moderate coarse angular blocky structure; hard, very friable, sticky and plastic; few very fine, fine, medium and coarse roots; many very fine tubular pores; many moderately thick reddish yellow (7.5YR 6/6), strong brown (7.5YR 4/6) moist, clay films on faces of peds; continuous thin clay films in pores; 20 percent 2 to 5 mm gravel and 30 percent 5 to 75 mm gravel; slightly acid (pH 6.1); clear wavy boundary.

Bt2—33 to 51 inches; reddish yellow (7.5YR 6/6) very gravelly clay loam, strong brown (7.5YR 4/6) moist; strong fine angular blocky structure; very hard, friable, very sticky and very plastic; few fine, medium and coarse roots; common very fine tubular pores; continuous thick clay films on faces of peds and in pores; 20 percent 2 to 5 mm gravel and 30 percent 5 to 75 mm gravel; slightly acid (pH 6.1); clear wavy boundary.

Bt3—51 to 60 inches; reddish yellow (7.5YR 6/6) very gravelly clay loam, strong brown (7.5YR 4/6) moist; strong medium angular blocky structure; very hard, friable, very sticky and very plastic; few fine roots; common very fine tubular pores; continuous thick clay films on faces of peds and continuous moderately thick clay films in pores; common fine black stains; 20 percent 2 to 5 mm gravel and 30 percent 5 to 75 mm gravel; slightly acid (pH 6.1).

Type location: About 6.0 miles northeast of Westwood; 1.5 miles north of Hwy 36 on first road east of Coppervale and 250 feet west of this road; about 100 feet east and 1,000 feet south of northwest corner of Sec. 19, T.29 N., R.10 E.

Range in Characteristics:

Soil moisture: Usually dry from August to November, moist in some or all parts the rest of the time. Xeric moisture regime.

Soil temperature: 44 to 46 degrees F.

Rock fragments: 0 to 50 percent stones and 20 to 40 percent gravel.

A horizon:

Value—4 through 6 dry, 3 to 4 moist.

Chroma—2 through 6, dry or moist.

Texture—Very gravelly sandy loam, very gravelly loam, stony loam, or extremely stony loam.

BA horizon:

Hue—7.5YR, 5YR.

Value—5 through 7 dry, 4 to 5 moist.

Chroma—4 through 6, dry or moist.

Texture—Very gravelly sandy loam, very cobbly or extremely cobbly loam.

Clay content—15 to 20 percent.

Rock fragments—40 to 60 percent.

Bt horizon:

Hue—7.5YR, 5YR, 2.5YR.

Value—5 through 7 dry, 3 through 5 moist.

Chroma—4 through 8, dry or moist.

Reaction—Slightly acid or neutral.

Texture—Very gravelly clay loam, very cobbly clay loam or very gravelly sandy clay loam.

Clay content—27 to 35 percent.

Rock fragments—35 to 60 percent.

Searles series

The Searles series consists of moderately deep, well drained soils on back slopes of mountains. These soils formed in colluvium and residuum weathered from basalt or andesite. Slopes range from 5 to 50 percent.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Aridic Argixerolls

Typical pedon: Searles very cobbly loam, located in map unit 357, pasture. (Colors are for dry soils unless otherwise noted).

A1—0 to 3 inches; dark grayish brown (10YR 4/2) very cobbly loam, very dark brown (10YR 2/2) moist, weak fine and medium angular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine and few medium roots, many very fine and fine tubular and interstitial pores; 10 percent stones, 20 percent cobbles, 20 percent gravel; neutral (pH 6.6); clear wavy boundary.

A2—3 to 13 inches; grayish brown (10YR 5/2) very cobbly loam, very dark grayish brown (10YR 3/2) moist; weak and moderate fine and medium angular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few medium, many very fine and fine roots, many very fine and common fine tubular and interstitial pores; 15 percent cobbles, 30 percent gravel; neutral (pH 7.0); gradual wavy boundary.

Bt1—13 to 21 inches; light brownish gray (10YR 6/2) very gravelly clay loam, dark grayish brown (10YR 4/2) moist; moderate fine and medium subangular blocky structure; hard, very friable, sticky and plastic, common fine and medium, few coarse and many very fine roots, many very fine, few fine and medium, tubular and interstitial pores; common thin clay films

occur as bridges holding mineral grains together; 10 percent cobbles, 35 percent gravel; neutral (pH 7.0); gradual wavy boundary.

Bt2—21 to 29 inches; light brownish gray (10YR 6/2) very gravelly clay loam, dark grayish brown (10YR 4/2) moist; moderate medium and coarse subangular blocky structure; hard, friable, sticky and plastic; common very fine and few fine roots, many very fine and few fine tubular and interstitial pores; common moderately thick clay films on faces of peds and in pores; 10 percent cobbles, 50 percent gravel; neutral (pH 7.0); abrupt irregular boundary.

R—29 to 33 inches; fractured basalt, weathered in upper 2 to 3 inches, some thin clay coatings along fractures that are 4 to 12 inches apart.

Type location: Near the Shaeffer Mountain TV relays, about 1,400 feet east and 2,000 feet north of the southwest corner of Sec. 24, T.30 N., R.14 E.

Range in Characteristics:

Soil moisture: Usually dry for half the year and moist the rest of the time. Xeric moisture regime.

Soil temperature: 47 to 54 degrees F.

Depth to bedrock: 20 to 40 inches.

Solum thickness: 20 to 40 inches.

Rock fragments: A horizon range from 0 to 50 percent and the Bt and C horizons average 50 to 80 percent. The percent of the surface covered with stones and cobbles ranges from 0.1 to 15 percent.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry and moist.

Texture—Loam or sandy loam.

Structure—Weak to moderate platy, granular and subangular blocky structure.

Reaction—Slightly acid through slightly alkaline.

Bt horizon:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, 3 through 5 moist.

Chroma—3 or 4.

Texture—Loam, sandy clay loam, clay loam, or silty clay loam.

Clay content—25 to 35 percent.

Structure—Weak or moderate prismatic and subangular or angular blocky structure.

Reaction—Neutral or slightly alkaline.

C horizon (when present):

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4, dry and moist.

Other features—Some of the rock fragments in this horizon have lime coatings on the underside.

Remarks

The soils mapped as Searles in map units 228, 301, 322, 323, 358, and 359 are outside the range for the series. They extend to higher elevations than is defined for the series. This difference, however, does not significantly affect their use and management.

Shinnpeak series

The Shinnpeak series consists of shallow, well drained soils on fan remnants. These soils formed in mixed alluvium. Slopes range from 2 to 15 percent.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic, shallow Xeric Argidurids

Typical pedon: Shinnpeak very cobbly sandy loam, located in map unit 250, pasture. (Colors are for dry soils unless otherwise noted). Surface area is covered by 5 percent stones, 20 percent cobbles, and 25 percent gravel.

A—0 to 2 inches; light brownish gray (10YR 6/2) very cobbly sandy loam, very dark grayish brown (10YR 3/2) moist; weak thin and medium platy structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; common very fine interstitial pores; about 5 percent stones, 20 percent cobbles and 35 percent gravel; neutral (pH 6.8); clear wavy boundary.

Bt1—2 to 5 inches; brown (10YR 5/3) very gravelly sandy clay loam, dark brown (10YR 3/3) moist; moderate fine and medium angular blocky structure; slightly hard, very friable, sticky and plastic; common very fine and fine and few medium roots; common very fine tubular and interstitial pores; common thin clay films on faces of peds and pores; 5 percent cobbles, 45 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt2—5 to 13 inches; brown (10YR 5/3) very gravelly sandy clay loam, dark brown (10YR 4/3) moist; strong fine and medium angular blocky structure; very hard, friable, very sticky and very plastic; common very fine and few fine and medium roots; common very fine tubular pores; many thin clay films on faces of peds and in pores; few cobbles, 50 percent gravel; neutral (pH 7.2); abrupt wavy boundary.

Bkqm—13 to 22 inches; pink (7.5YR 7/4) indurated duripan, strong brown (7.5YR 5/6) moist; massive; extremely hard, extremely firm; few very fine

interstitial pores; continuous 1 to 3 mm thick light yellowish brown (10YR 6/4) silica laminae, yellowish brown (10YR 5/4) moist; cemented gravel and cobbles; many 1/2 to 2 mm thick silica and lime coatings on gravel and cobbles; strongly effervescent with disseminated lime and lime segregated as seams; slightly alkaline (pH 7.8).

2Bkq—22 to 60 inches; strongly silica and calcium carbonate cemented stones, cobbles and gravel.

Type location: About 5 miles east of Secret Valley; 3,300 feet north and 1,000 feet east of the southwest corner of Section 16, T.31 N, R.16 E.

Range in Characteristics:

Soil moisture: Usually dry throughout from June 1 to November 15, (168 days). It is moist throughout from December 1 to May 1. Aridic moisture regime bordering on xeric.

Soil temperature: 48 to 52 degrees F.

Solum thickness and depth to the duripan: 13 to 20 inches.

Surface rock fragments: 40 to 50 percent, mostly cobbles and gravel.

A horizon:

Value—3 to 4 moist.

Chroma—2 to 3, dry and moist.

Texture—Fine sandy loam or loam.

Rock fragments—45 to 60 percent cobbles and gravel.

Bt horizon:

Hue—10YR, 7.5YR.

Value—5 to 6 dry, 3 to 4 moist.

Chroma—3 to 4, dry and moist.

Texture—Very gravelly sandy clay loam or very gravelly clay loam.

Clay content—25 to 35 percent.

Rock fragments—40 to 50 percent, mostly rounded gravel.

Smocreek series

The Smocreek series consists of very deep, somewhat poorly drained soils on stream terraces. These soils formed in alluvium from volcanic rocks. Slopes range from 0 to 2 percent.

Taxonomic class: Fine-silty, mixed, superactive, mesic Fluventic Haploxerolls

Typical pedon: Smocreek silty clay loam, located in map unit 363, pasture. (Colors are for dry soils unless otherwise noted).

- A1—0 to 2 inches; brown (10YR 5/3) silty clay loam; very dark grayish brown (10YR 3/2) moist; moderate thick and very thick platy structure; very hard, friable, sticky and plastic; common very fine roots; common very fine interstitial pores; surface 1/4 and 1/2 inch is hard, dry, decomposed organic matter; moderately alkaline (pH 8.0); clear wavy boundary.
- A2—2 to 13 inches; grayish brown (10YR 5/2) silty clay loam, black (10YR 2/1) moist; few fine distinct pale brown (10YR 6/3) mottles, brown (10YR 4/3) moist; moderate fine, medium and coarse angular blocky structure; slightly hard, very friable, sticky and plastic; many very fine and common fine roots; many very fine tubular pores; slightly effervescent with disseminated lime, calcium carbonate equivalent is 9 percent; moderately alkaline (pH 8.0); clear wavy boundary.
- Bk—13 to 19 inches; light brownish gray (10YR 6/2) silt loam, very dark grayish brown (10YR 3/2) moist; common fine distinct light yellowish brown (10YR 6/4) mottles, dark brown (10YR 3/3) moist; weak fine and medium angular blocky structure; slightly hard, very friable, sticky and plastic; many very fine and common fine roots; strongly effervescent with disseminated lime and lime segregated in few fine filaments and threads, calcium carbonate equivalent is 9 percent; moderately alkaline (pH 8.0); clear wavy boundary.
- ABkb—19 to 27 inches; variegated gray (10YR 5/1) and grayish brown (10YR 5/2) silty clay loam, black (N 2/0) and very dark grayish brown (10YR 3/2) moist; common fine distinct light yellowish brown (10YR 6/4) mottles, dark brown (10YR 3/3) moist; moderate fine and medium angular blocky structure; slightly hard, very friable, very sticky and very plastic; many very fine and common fine roots; many very fine and common fine tubular pores; strongly effervescent with disseminated lime and lime segregated in few fine filaments and threads, calcium carbonate equivalent is 11 percent; moderately alkaline (pH 8.0); clear wavy boundary.
- Bkb1—27 to 49 inches; light brownish gray (10YR 6/2) silty clay loam, very dark grayish brown (10YR 3/2) moist; common fine distinct light yellowish brown (10YR 6/4) mottles, dark yellowish brown (10YR 4/4) moist; massive, slightly hard, very friable, sticky and plastic; common very fine roots; many very fine tubular pores; many fine organic carbon pieces and stains; strongly effervescent with disseminated lime and lime segregated in few fine filaments and threads,

calcium carbonate equivalent is 11 percent; moderately alkaline (pH 8.0); clear wavy boundary.

Bkb2—49 to 60 inches; pale brown (10YR 6/3) silty clay loam, dark grayish brown (10YR 4/2) moist; many fine distinct brownish yellow (10YR 6/6) mottles, dark yellowish brown (10YR 4/4) moist; massive; hard, very friable, sticky and plastic; few very fine roots; many very fine tubular pores; many fine organic carbon pieces and stains; strongly effervescent with disseminated lime and lime segregated in few fine filaments and threads, calcium carbonate equivalent is 7 percent; moderately alkaline (pH 8.0).

Type location: Secret Valley, about 1,100 feet west and 150 feet north from the intersection of Hwy 395 and Karlo Road, 900 feet east and 50 feet north of the southwest corner Sec. 35, T.32 N., R.15 E.

Range in Characteristics:

Soil moisture: Usually moist, but are continuously dry in all parts between 4 and 15 inches between August and October. Xeric moisture regime.

Soil temperature: 48 to 53 degrees F.

Mollic epipedon: 12 to 20 inches thick.

Control section:

Texture—Stratified silt loam or silty clay loam.

Clay content—27 to 35 percent.

Effervescence—Slightly to strongly effervescent with disseminated lime in the upper part and lime segregated as filaments, threads, or seams in the lower part.

Calcium carbonate equivalent—7 to 12 percent in the 10 to 40 inch control section and 5 to 10 percent below 40 inches.

A horizon:

Value—2 to 3 moist.

Chroma—1 through 3, dry or moist.

Texture—Loam, silt loam, or silty clay loam.

Rock fragments—0 to 5 percent.

Reaction—Slightly or moderately alkaline.

Electrical conductivity—0 to 2 in non-alkali phase and 4 to 8 in alkali phase.

SAR—0 to 4 in non-alkali phase and 10 to 20 in alkali phase.

Bk and Bkb horizons:

Hue—10YR, 2.5Y, N.

Value—5 to 6 dry. 2 through 5 moist.

Chroma—0 through 3, dry or moist.

Reaction—Slightly through strongly alkaline.

Electrical conductivity—0 to 2 in non-alkali phase and 8 to 16 in alkali phase.

SAR—0 to 4 in non-alkali phase and 20 to 50 in alkali phase.

Softscrabble series

The Softscrabble series consists of very deep, well drained soils on mountain back slopes. These soils formed in residuum and colluvium weathered from basalt. Slopes range from 15 to 50 percent.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Pachic Argixerolls

Typical pedon: Softscrabble very cobbly loam, located in map unit 370, pasture. (Colors are for dry soils unless otherwise noted).

A—0 to 11 inches; dark grayish brown (10YR 4/2) very cobbly loam, very dark grayish brown (10YR 3/2) moist; very friable, slightly sticky and slightly plastic; many very fine and fine roots many very fine interstitial pores; 10 percent stones; 30 percent cobbles, 10 percent gravel; neutral (pH 6.6); clear smooth boundary.

Bt1—11 to 20 inches; brown (10YR 4/3) very cobbly clay loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common thin clay films on faces of peds; 30 percent gravel, 20 percent cobbles; neutral (pH 6.8); clear smooth boundary.

Bt2—20 to 26 inches; brown (10YR 4/3) very cobbly clay loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine and few fine and medium roots; many very fine tubular pores; many thin clay films on faces of peds; 25 percent cobbles; 25 percent gravel, neutral (pH 7.0); clear smooth boundary.

Bt3—26 to 37 inches; yellowish brown (10YR 5/4) very cobbly clay loam, dark yellowish brown (10YR 3/4) moist; moderate fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine tubular pores; common thin clay films on faces of peds; 20 percent cobbles; 40 percent gravel, neutral (pH 7.0); clear smooth boundary.

Bt4—37 to 60 inches; yellowish brown (10YR 5/4) very cobbly clay loam, dark yellowish brown (10YR 3/4) moist; moderate fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine tubular pores; common

thin clay films on faces of peds; 20 percent cobbles, 35 percent gravel; neutral (pH 7.0).
Cr—60 inches; weathered basalt.

Type location: About 800 feet west and 2,200 feet north of the southeast corner of Section 12, T.25 N, R.17 E.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry mid-July to early October. Aridic moisture regime bordering on xeric.

Soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 20 to 38 inches.

Depth to base of Bt horizon: 60 to 80 inches.

Reaction: Slightly acid or neutral.

Control section:

Clay content—Averages 27 to 35 percent.

Rock fragments—35 to 70 percent pebbles and cobbles with few stones, when mixed.

A horizon:

Hue—10YR or 7.5YR.

Value—3 through 5 dry, 2 or 3 moist.

Chroma—2 or 3.

Bt horizons:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 4 (4 in lower part only).

Texture—Loam and clay loam with an average of 35 to 70 percent rock fragments. Individual horizons can have as few as 5 percent rock fragments.

Structure—Angular blocky or subangular blocky.

Consistence—Slightly hard or hard, dry; friable or firm, moist; slightly sticky or sticky and slightly plastic or plastic wet.

Southpac series

The Southpac series consists of very deep, well drained soils on mountain or plateau back slopes. These soils formed in residuum and colluvium weathered from andesite. Slopes range from 2 to 50 percent.

Taxonomic class: Loamy-skeletal, isotic, mesic Vitrandic Haploxeralfs

Typical pedon: Southpac very stony loam, located in map unit 394, forestland. (Colors are for dry soils unless otherwise noted). Surface area is covered by 25 percent stones.

A—0 to 7 inches; reddish brown (5YR 4/3) very stony loam, dark reddish brown (5YR 3/3) moist; weak fine and medium granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine, and common medium roots; common fine and medium tubular pores; 25 percent 5 to 75 mm gravel and 10 percent 2 to 5 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

BA1—7 to 12 inches; brown (7.5YR 5/4) very gravelly loam, dark reddish brown (5YR 3/4) moist; moderate fine and medium subangular blocky structure; soft, very friable, slightly sticky and plastic; common fine and medium roots; common fine tubular pores; common moderately thick clay films on faces of peds and in pores; 20 percent 5 to 75 mm gravel and 15 percent 2 to 5 mm gravel; slightly acid (pH 6.3); clear wavy boundary.

Bt1—12 to 23 inches; reddish brown (5YR 4/4) very gravelly loam, dark reddish brown (5YR 3/4) moist; moderate medium subangular blocky structure; hard, very friable, sticky and plastic; common fine and medium and coarse roots; few fine tubular and interstitial pores; many moderately thick clay films on faces of peds; 30 percent 5 to 75 mm gravel and 10 percent 2 to 5 mm gravel; slightly acid (pH 6.1); clear wavy boundary.

Bt2—23 to 35 inches; reddish brown (5YR 4/4) very gravelly loam, dark reddish brown (5YR 3/4) moist; strong medium subangular blocky structure; hard, very friable, sticky and plastic; few fine, common medium and few coarse roots; common fine and few medium tubular pores; many moderately thick clay films on faces of peds; 20 percent 5 to 75 mm gravel and 20 percent 2 to 5 mm gravel; slightly acid (pH 6.1); abrupt wavy boundary.

Bt3—35 to 61 inches; reddish brown (5YR 5/3) gravelly clay loam, dark reddish brown (5YR 3/3) moist; strong fine and medium angular blocky structure; hard, friable, sticky and plastic; few very fine medium and coarse roots; common very fine tubular pores; many moderately thick clay films on faces of peds and in pores; 10 percent 5 to 75 mm gravel and 10 percent 2 to 5 mm gravel; slightly acid (pH 6.1).

Type location: about 3.5 miles northwest of Susanville; 0.5 miles north of second left fork on the old Paul Bunyan Logging Road north of Paiute Creek; about 800 feet north and 2,100 feet west of the southeast corner of Sec. 22, T.30 N., R.11 E.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry mid-July to early October. Xeric moisture regime.

Soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 20 to 38 inches.

Depth to base of Bt horizon: 60 to 80 inches.

Reaction: Slightly acid or neutral.

Control section:

Clay content—Averages 27 to 35 percent.

Rock fragments—35 to 70 percent pebbles and cobbles with few stones, when mixed.

A horizon:

Hue—10YR or 7.5YR.

Value—3 through 5 dry, 2 or 3 moist.

Chroma—2 or 3.

Bt horizons:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 4 (4 in lower part only).

Texture—Loam and clay loam with an average of 35 to 70 percent rock fragments. Individual horizons can have as few as 5 percent rock fragments.

Structure—Angular blocky or subangular blocky.

Consistence—Slightly hard or hard, dry; friable or firm, moist; slightly sticky or sticky and slightly plastic or plastic, wet.

Springmeyer series

The Springmeyer series consists of very deep, well drained soils on terraces and fans. These soils formed in mixed alluvium. Slopes range from 0 to 5 percent.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Aridic Argixerolls

Typical pedon: Springmeyer sandy loam, located in map unit 365, cropland. (Colors are for dry soils unless otherwise noted).

A1—0 to 3 inches; grayish brown (10YR 5/2) sandy loam, very dark grayish brown (10YR 3/2) moist; weak very fine and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and fine interstitial pores; 5 percent gravel; slightly acid (pH 6.5); clear smooth boundary.

A2—3 to 11 inches; grayish brown (10YR 5/2) sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few fine and medium roots; common very fine tubular and interstitial pores; 5 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt—11 to 25 inches; pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; moderate medium and fine subangular blocky structure; hard, very friable, sticky and plastic; common very fine and few fine roots; common very fine and fine tubular and interstitial pores; 5 percent gravel; common thin and moderately thick clay films on faces of peds and in pores; neutral (pH 7.0); clear wavy boundary.

BCt1—25 to 38 inches; light brown (7.5YR 6/4) stratified loam; dark brown (7.5YR 3/4) moist; moderate medium and coarse subangular blocky structure; hard, friable, sticky and plastic; common very fine roots; common very fine and fine tubular and interstitial pores; common thin clay films on faces of peds and in pores; 10 percent gravel; neutral (pH 7.0); gradual wavy boundary.

BCt2—38 to 46 inches; light brown (7.5YR 6/4) stratified sandy loam; brown (7.5YR 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine, tubular and interstitial pores; few thin clay films bridging mineral grains, 5 percent gravel; neutral (pH 7.0); gradual wavy boundary.

C—46 to 60 inches; light brown (7.5YR 6/4) stratified sand and fine sandy loam, brown (7.5YR 4/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine interstitial pores; neutral (pH 7.0).

Type location: 2 miles south of US 395 at Lake Leavitt; 1,500 feet west and 1,600 feet south of northeast corner of Sec. 27, T.29 N., R.13 E.

Range in Characteristics:

Soil moisture: Moist from November to early June, dry for the remainder of the year. Aridic moisture regime bordering on xeric.

Soil temperature: 47 to 53 degrees F.

Mollic epipedon thickness: 7 to 20 inches.

Reaction: Slightly alkaline through slightly acid. The C horizon is moderately alkaline in some pedons.

Control section:

Clay percent—25 to 35.

Rock fragments—5 to 35 percent.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3.

Structure—Granular, angular or subangular blocky, or platy.

Bt horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 through 4.

Texture—Clay loam or sandy clay loam, modified by 5 to 35 percent rock fragments.

Structure—Prismatic or subangular blocky.

C horizon:

Hue—10YR or 7.5YR.

Value—5 through 7 dry, 4 or 5 moist.

Chroma—3 or 4.

Texture—Stratified extremely gravelly loamy sand to sandy clay loam.

Rock fragments—5 to 70 percent.

Reaction—Neutral to moderately alkaline.

Other features—Relict mottles are in the B and C horizons of some pedons. Up to 5 percent durinodes are in some pedons below 40 inches.

Stacy series

The Stacy series consists of very deep, well drained soils formed in alluvium from volcanic rocks. Stacy soils are on alluvial fans. Slopes range from 0 to 2 percent.

Taxonomic class: Coarse-loamy, mixed, superactive, mesic Duridic Haploxerolls

Typical pedon: Stacy fine sandy loam, located in map unit 367, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 3 inches; brown (10YR 5/3) fine sandy loam, very dark grayish brown (10YR 3/2) moist; moderate very thin platy structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine interstitial pores; slightly alkaline (pH 7.5); clear wavy boundary.

A2—3 to 10 inches; brown (10YR 5/3) fine sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine and few fine tubular pores; moderately alkaline (pH 8.0); clear wavy boundary.

Bw—10 to 17 inches; brown (10YR 5/3) fine sandy loam, dark brown (10YR 3/3) moist; weak medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine tubular pores; moderately alkaline (pH 8.0); clear wavy boundary.

Bkq1—17 to 40 inches; light brownish gray (10YR 6/2) stratified fine sandy loam, dark brown (10YR 3/3)

moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; 40 percent 5 to 20 mm firm durinodes; strongly effervescent disseminated carbonates; moderately alkaline (pH 8.0); clear wavy boundary.

Bkq2—40 to 50 inches; pale brown (10YR 6/3) stratified fine sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; 25 percent 5 to 10 mm firm durinodes; slightly effervescent disseminated carbonates; strongly alkaline (pH 8.5); clear wavy boundary.

2C—50 to 62 inches; light gray (2.5Y 7/2) stratified gravelly sand, dark grayish brown (2.5Y 4/2) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; 15 percent 2 to 5 mm gravel; strongly alkaline (pH 8.5).

Type location: About 1.5 miles southwest of High Rock Ranch, about 0.5 mile north of Southern Pacific railroad tracks and about 60 feet west of Skedaddle Creek; about 350 feet south and 50 feet east of the northwest corner of Section 35, T.28 N., R.17 E.

Range in Characteristics:

Soil moisture: Usually dry in all parts from early June to mid November, moist throughout from mid December to late April. Aridic moisture regime bordering on xeric.

Soil temperature: 53 to 56 degrees F.

Depth to durinodes: 13 to 18 inches.

Mollic epipedon thickness: 8 to 18 inches.

Control section:

Texture—Fine sandy loam or sandy loam.

Clay content—8 to 15 percent clay.

A horizon:

Value—2 to 3 moist.

Chroma—2 to 3, dry and moist.

Bw horizon:

Value—3 to 4 moist.

Chroma—3 to 4, dry and moist.

Bkq horizon:

Hue—10YR, 2.5Y.

Value—6 to 7 dry, 3 to 4 moist.

Chroma—2 to 4, dry or moist.

Durinodes—20 to 50 percent in a given horizon but average 30 to 40 percent.

Calcium carbonate equivalent—1 to 3 percent.

Standish series

The Standish series consists of very deep, well drained soils on lake terraces. These soils formed in mixed alluvium and lacustrine sediments. Slopes range from 0 to 2 percent.

Taxonomic class: Fine, smectitic, mesic Xeric Natragids

Typical pedon: Standish fine sandy loam, located in map unit 368, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 4 inches; grayish brown (10YR 5/2) fine sandy loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; neutral (pH 7.0); abrupt smooth boundary.

A2—4 to 7 inches; very pale brown (10YR 7/3) coarse sandy loam, brown (10YR 5/3) moist; moderate, medium and coarse angular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; many very fine interstitial pores; moderately alkaline (pH 8.0); abrupt smooth boundary.

2Btn1—7 to 12 inches; very pale brown (10YR 7/4) clay, yellowish brown (10YR 5/4) moist; strong fine prismatic structure; very hard, very firm, very sticky and very plastic; few very fine and fine roots; common very fine tubular pores; continuous thick pale brown (10YR 6/3) clay films, brown (10YR 4/3) moist, on peds and in pores; SAR is 13; strongly alkaline (pH 8.5); clear wavy boundary.

2Btn2—12 to 16 inches; light yellowish brown (10YR 6/4) clay, dark yellowish brown (10YR 4/4) moist; strong fine prismatic structure; very hard, very firm, very sticky and very plastic; few very fine and fine roots; common very fine tubular pores; continuous thick clay films on faces of peds and in pores; SAR is 19; strongly alkaline (pH 8.5); clear wavy boundary.

2Btk—16 to 27 inches; light yellowish brown (10YR 6/4) sandy clay loam, dark yellowish brown (10YR 4/4) moist; moderate coarse angular blocky structure; hard, friable, sticky and plastic; few very fine, fine and medium roots; common very fine tubular and interstitial pores; common moderately thick clay films on faces of peds and in pores; violently effervescent, lime segregated in common fine soft filaments; strongly alkaline (pH 8.5); clear wavy boundary.

3Bkn1—27 to 39 inches; light yellowish brown (2.5Y 6/4) stratified sandy loam, olive brown (2.5Y 4/4) moist; weak coarse angular blocky structure; slightly hard,

very friable, slightly sticky and slightly plastic; few very fine, fine, medium and coarse roots; many very fine interstitial pores; strongly effervescent, lime segregated in common fine soft filaments; strongly alkaline (pH 8.5); clear wavy boundary.

3Bkn2—39 to 53 inches; light yellowish brown (2.5Y 6/4) and light brownish gray (2.5Y 6/2) stratified coarse sandy loam, olive brown (2.5Y 4/4) and dark grayish brown (2.5Y 4/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; many very fine interstitial pores; strongly effervescent, lime segregated in common fine soft filaments; strongly alkaline (pH 8.5) abrupt wavy boundary.

3Bkn3—53 to 65 inches; light yellowish brown (2.5Y 6/4) stratified loamy sand, olive brown (2.5Y 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; many very fine interstitial pores; strongly effervescent, lime segregated in common fine soft filaments; few relic mottles; strongly alkaline (pH 8.5).

Type location: Lassen County, California; about 7.1 miles north of the town of Doyle; 2.9 miles south on U.S. 395 from its junction with County Road A25 and 0.7 mile north of HWY 395; 400 feet south and 2,500 feet east of the northwest corner of Sec. 17, T.26 N., R.16 E.

Range in Characteristics:

Soil moisture: Usually dry, moist in some part for short periods during winter and early spring months (December to April). Aridic moisture regime bordering on xeric.

Soil temperature: 53 to 56 degrees F.

Summer soil temperature: 69 to 71 degrees F.

Control section:

Combined thickness of the A and 2B_{tn} horizons—20 to 30 inches.

Depth to carbonates—10 to 28 inches.

A horizon:

Value—5 through 7 dry, 3 to 4 moist.

Chroma—2 through 4.

Reaction—Neutral, Slightly, or moderately alkaline.

2B_{tn} horizon:

Value—5 through 7 dry, 3 through 5 moist.

Chroma—2 through 4.

Texture—Clay or sandy clay in the upper part and clay loam or sandy clay loam in the lower part.

Clay content—40 to 50 percent in the upper part, 30 to 40 percent in the lower part.

Sand content—30 to 50 percent.

Reaction—Moderately through strongly alkaline.

Electrical conductivity—4 to 8 mmhos.

SAR—13 to 30.

3B_{kn} horizon:

Value: 6 to 7 dry, 4 to 5 moist.

Texture: Sandy loam and coarse sandy loam in the upper part and fine sand or loamy sand in the lower part.

Reaction—Moderately through strongly alkaline.

Electrical conductivity—4 to 8 mmhos.

SAR—13 to 30.

Stiles series

The Stiles series consists of moderately deep, well drained soils on uplifted lake terraces. These soils formed in mixed lacustrine sediments. Slopes range from 0 to 5 percent.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Xeric Calciargids

Typical pedon: Stiles clay loam, located in map unit 369, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 5 inches; light brownish gray (2.5Y 6/2) clay loam, dark grayish brown (2.5Y 4/2) moist; strong medium platy structure; slightly hard, friable, sticky and plastic; common very fine and few fine roots; common very fine tubular pores; moderately alkaline (pH 8.0), clear wavy boundary.

Bt—5 to 8 inches; light brownish gray (2.5Y 6/2) clay, dark grayish brown (2.5Y 4/2) moist; strong medium platy structure; slightly hard, friable, sticky and plastic; common very fine and few fine roots; common very fine tubular pores; many thin clay films on faces of peds; strongly effervescent with disseminated lime; moderately alkaline (pH 8.0), clear wavy boundary.

2B_{tk}—8 to 13 inches; pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; moderate fine angular blocky structure; slightly hard, very friable, sticky and plastic; common very fine roots; few very fine tubular and interstitial pores; common thin clay films on faces of peds and many thin clay films in pores; violently effervescent with disseminated lime; 13 percent calcium carbonate equivalent; moderately alkaline (pH 8.4); clear wavy boundary.

3B_{k1}—13 to 18 inches; light gray (10YR 7/2) sandy loam, brown (10YR 5/3) moist; moderate fine and medium subangular blocky structure; slightly hard,

very friable, slightly sticky and slightly plastic;
common very fine roots; few very fine tubular pores;
30 percent burrow castings 8 to 12 mm across and
unstable in water; violently effervescent, with
disseminated lime; moderately alkaline (pH 8.4); clear
wavy boundary.

3Bk2—18 to 30 inches; white (2.5Y 8/2) paragravelly
sandy loam, light yellowish brown (2.5Y 6/4) moist;
moderate fine and medium subangular blocky
structure; soft, very friable, nonsticky and nonplastic;
common very fine roots; few very fine tubular pores;
one inch lens of sand and ash at the lower boundary;
few relict mottles; 20 percent 2 to 5 mm soft siltstone
paragavel; violently effervescent, with disseminated
lime; moderately alkaline (pH 8.4); abrupt smooth
boundary.

3Cr—30 inches; soft white siltstone fractured every 2 to
3 inches horizontally and 1 to 2 inches vertically; can
be dug with a spade and scratched with fingernail;
few fine prominent strong brown relict mottles.

Type location: About 0.7 miles south of the canal which
crossed the road along the west side of "The Island"
and 20 feet east of this road; 1,900 feet south and 20
feet east of the northwest corner of Sec. 16, T.27 N.,
R.15 E, MDBM.

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods during
winter and early spring (December through April).

Aridic moisture regime bordering on xeric.

Soil temperature: 53 to 56 degrees F.

Depth to rock: 20 to 40 inches.

Depth to carbonates: 0 to 5 inches.

Reaction: Moderately though strongly alkaline
throughout.

Control section:

Clay content—30 to 35 percent.

Depth to rock—20 to 40 inches.

Solum thickness—12 to 21 inches.

Depth to carbonates—0 to 5 inches.

A horizon:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 6 or 7 moist.

Chroma—2 or 3.

Bt horizon:

Value—6 through 8 dry, 4 to 5 moist.

Chroma—2 through 4.

Clay content—40 to 45 percent.

2Btk horizon:

Value—6 or 7 dry, 4 moist.

Chroma—3.

Texture—Loam or clay loam.

Clay content—20 to 30 percent.

3Bk horizon:

Hue—2.5Y, 5Y, or 10YR.

Value—6 through 8 dry, 4 through 6 moist.

Chroma—2 through 4.

Texture—Silt loam, loam, or sandy loam.

Rock fragments—15 to 35 percent gravel size soft
siltstone rock fragments.

Electrical conductivity—4 to 8 mmhos.

Sodium adsorption ratio—0 to 13.

Sumine series

The Sumine series consists of moderately deep, well
drained soils on back slopes of mountains and plateaus.
These soils formed in residuum and colluvium
weathered from basalt or andesite. Slopes range from 9
to 50 percent.

Taxonomic class: Loamy-skeletal, mixed, superactive,
frigid Aridic Argixerolls

Typical pedon: Sumine cobbly loam, located in map
279, rangeland. (Colors are for dry soils unless
otherwise noted).

A1—0 to 2 inches; brown (10YR 4/3) cobbly loam, dark
brown (10YR 3/3) moist; weak medium and thick platy
structure; soft, very friable, nonsticky, nonplastic;
common very fine and fine roots; many very fine and
interstitial pores; 10 percent cobbles, 10 percent
gravel; neutral (pH 6.6); abrupt smooth boundary.

A2—2 to 5 inches; brown (10YR 4/3) cobbly loam, dark
brown (10YR 3/3) moist; weak medium and fine
granular structure; soft, very friable, slightly sticky and
slightly plastic; common very fine and fine and few
medium roots; many very fine interstitial pores; 10
percent cobbles, 20 percent gravel; neutral (pH 7.0);
clear smooth boundary.

Bt1—5 to 11 inches; brown (10YR 4/3) very gravelly
loam, dark brown (10YR 3/3) moist; moderate fine
and medium angular blocky structure; soft, very
friable, slightly sticky and slightly plastic; common
very fine and fine medium roots; common very fine
and fine interstitial, few very fine and fine tubular
pores; few thin clay films bridging mineral grains; 10
percent cobbles, 30 percent gravel; neutral (pH 7.0);
gradual wavy boundary.

Bt2—11 to 24 inches; brown (7.5YR 4/4) very cobbly
clay loam, dark brown (7.5YR 3/4) moist; moderate

coarse and medium angular blocky structure; hard, friable, sticky and plastic; few very fine and fine, common medium and coarse roots; common very fine and fine tubular and few very fine interstitial pores; common thin clay films on faces of peds and in pores; 30 percent cobbles, 10 percent gravel; neutral (pH 7.0); abrupt wavy boundary.

R—24 to 28 inches; hard fractured andesite. Some soil fills the fractures and pockets, and roots follow cracks. In a few places the bedrock is soft enough to cut with a knife. Few thin clay films and soil coatings occur on fractures.

Type location: About 2 miles west of Painters Flat on road to Horne Ranch and 0.25 miles south of this road to site; about 1,000 feet south and 1,200 feet east of the northwest corner of Sec. 32, T.34 N., R.17 E.

Range in Characteristics:

Soil moisture: Usually dry, moist in the winter and spring, dry from early July through mid-October. Aridic moisture regime that borders on xeric.

Soil temperature: 42 to 47 degrees F.

Mollic epipedon thickness: 8 to 17 inches, includes the Bt1 horizon.

Depth to base of argillic horizon: 20 to 40 inches.

Depth to bedrock: 20 to 40 inches to a lithic contact.

Reaction: Neutral or slightly alkaline.

Control section:

Clay content—Averages 25 to 35 percent;

Rock fragments—Averages 35 to 60 percent.

Lithology of fragments are mixed.

A horizons:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Organic matter content—2 to 5 percent.

Bt horizons:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, 2 through 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Very gravelly clay loam, very cobbly clay loam, or very gravelly loam; some pedons have gravelly clay loam in thin Bt1 horizons.

Consistence—Soft to hard dry, very friable to firm moist, moderately sticky or very sticky and moderately plastic or very plastic wet.

Structure—Weak or moderate, very fine to medium angular or subangular blocky. In some pedons the lower subhorizons may be massive.

Organic matter content—1 to 3 percent in the Bt1 horizon, 0.5 to 3 percent in the Bt2 and Bt3 horizons.

Susanville series

The Susanville series consists of very deep, moderately well drained soils on stream terraces. These soils formed in mixed alluvium. Slopes range from 0 to 2 percent.

Taxonomic class: Fine, smectitic, mesic Vertic Natrixerolls

Typical pedon: Susanville very fine sandy loam, located in map unit 372, rangeland. (Colors are for dry soils unless otherwise noted).

- A—0 to 2 inches; light brownish gray (10YR 6/2) very fine sandy loam, dark grayish brown (10YR 4/2) moist; moderate medium platy structure parting to moderate medium subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine and fine vesicular pores; neutral (pH 7.0); abrupt smooth boundary.
- E—2 to 3 inches; light gray (10YR 7/2) very fine sandy loam, grayish brown (10YR 5/2) moist; moderate medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine and common fine vesicular pores; neutral (pH 7.0); abrupt smooth boundary.
- Bt1—3 to 11 inches; very dark gray (10YR 3/1) clay, very dark grayish brown (10YR 3/2) moist; strong medium prismatic structure parting to strong fine angular blocky; very hard, firm, sticky and plastic; common very fine and many medium roots between peds; many very fine tubular pores, continuous thin clay films on faces of peds; sodium adsorption ratio is 29; electrical conductivity is 3 mmhos; moderately alkaline (pH 8.2); clear smooth boundary.
- Bt2—11 to 16 inches; dark gray (10YR 4/1) clay, black (10YR 2/1) moist; moderate fine angular blocky structure; very hard, friable, sticky and plastic; many medium and few very fine roots; many very fine tubular pores; many fine pressure faces; common thin clay films on faces of peds; sodium adsorption ratio is 43; electrical conductivity is 12 mmhos; moderately alkaline (pH 8.2); clear wavy boundary.
- Ayb—16 to 28 inches; dark gray (10YR 4/1) clay, black (N 2/0) moist; moderate medium subangular blocky structure; slightly hard, friable, sticky and plastic; few very fine roots, many very fine tubular pores; common clean sand grains on peds; few fine irregular soft

masses and filaments of gypsum; moderately alkaline (pH 8.2); clear wavy boundary.

Byb1—28 to 39 inches; dark gray (10YR 4/1) silty clay, black (N 2/0) moist; few fine distinct dark yellowish brown mottles (10YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots, many very fine tubular pores; few fine irregular soft masses and filaments of gypsum; moderately alkaline (pH 8.2); clear wavy boundary.

Byb2—39 to 43 inches; dark gray (10YR 4/1) silty clay loam, black (N 2/0) moist; few fine distinct dark yellowish brown mottles (10YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine tubular pores; few fine irregular soft masses and filaments of gypsum; moderately alkaline (pH 8.2); abrupt wavy boundary.

2C—43 to 54 inches; light gray (2.5Y 7/2) silt loam, dark grayish brown and very dark gray (2.5Y 4/2 and N 3/0) moist; few fine distinct dark yellowish brown mottles (10YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; slightly effervescent with disseminated lime; moderately alkaline (pH 8.2); abrupt wavy boundary.

Ab—54 to 62 inches; dark gray (10YR 4/1 and N 4/0) silty clay, black (N 2/0) moist; moderate fine angular blocky structure; hard, friable, sticky and plastic; no roots; common very fine tubular pores; few bits of charcoal; moderately alkaline (pH 8.2).

Type location: About 1.5 mile north of Standish, CA; located 80 feet east of the fence line running north-south through the center of Section 8; 200 feet south and 80 feet east of the center of Section 8, T.29 N., R.14 E.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and early spring (January through April). Aridic moisture regime bordering on xeric.

Soil temperature: 53 to 56 degrees F.

Solum thickness: 16 to 35 inches.

Depth to carbonates: 26 to 44 inches.

A horizon:

Value—4 or 5 dry, 2 through 4 moist.

Chroma—1 or 2.

Reaction—Neutral through moderately alkaline.

Texture—Very fine sandy loam or silt loam.

Organic carbon content—0.7 to 1.5 percent.

Btn horizon:

Value—3 through 5 dry, 2 or 3 moist.

Chroma—1 or 2.

Texture—Clay or silty clay with 40 to 60 percent clay and 3 to 20 percent total sand.

SAR—13 to 50.

Electrical conductivity—2 to 12 mmhos.

Ayb, Ab, Byb and 2C horizons:

Hue—10YR, 2.5Y, N.

Value—2 through 7 dry, 2 through 4 moist.

Texture—Loam, clay loam, silt loam, silty clay loam or silty clay.

SAR—30 to 100.

Electrical conductivity—12 to 20 mmhos.

Swainow series

The Swainow series consists of deep, well drained soils on plateaus, mountain ridges and back slopes. These soils formed in material weathered from basalt, andesite and volcanic ash. Slopes range from 2 to 50 percent.

Taxonomic class: Medial-skeletal, mixed, frigid Ultic Haploxerands

Typical pedon: Swainow very stony sandy loam, located in map unit 374, forestland. (Colors are for dry soils unless otherwise noted).

A—0 to 3 inches; brown (7.5YR 4/4) very stony sandy loam, dark reddish brown (5YR 3/3) moist; weak fine granular structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine roots; many very fine interstitial pores; 20 percent stones, 15 percent 2 to 5 mm gravel and 25 percent 5 to 75 mm gravel; sodium fluoride pH (11.0); slightly acid (pH 6.5); clear wavy boundary.

AB—3 to 18 inches; strong brown (7.5YR 4/6) extremely stony sandy loam, dark reddish brown (5YR 3/4) moist; weak very fine subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine, fine and medium roots; many very fine interstitial pores; 60 percent stones and 15 percent gravel; sodium fluoride pH (10.0); slightly acid (pH 6.5); clear wavy boundary.

2Bt1—18 to 24 inches; yellowish red (5YR 5/6) very gravelly loam, yellowish red (5YR 4/6) moist; weak very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine and medium roots; many very fine

tubular pores, few thin clay films on faces of peds; 5 percent cobbles, 25 percent 2 to 5 mm gravel and 20 percent 5 to 75 mm gravel; sodium fluoride pH (8.6); slightly acid (pH 6.1); clear wavy boundary.

2Bt2—24 to 35 inches; strong brown (7.5YR 5/6) very gravelly loam, yellowish red (5YR 4/6) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, few fine and medium roots; many very fine tubular pores; many thin clay films on faces of peds; 5 percent cobbles, 25 percent 5 to 75 mm gravel and 25 percent 2 to 5 mm gravel; slightly acid (pH 6.1); clear wavy boundary.

2BC—35 to 39 inches; yellowish brown (10YR 5/6) extremely cobbly loam, dark yellowish brown (10YR 4/6) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine interstitial pores; 20 percent stones, 40 percent cobbles and 20 percent gravel; slightly acid (pH 6.1); abrupt wavy boundary.

2Cr—39 to 60 inches; moderately weathered, unfractured volcanic rock; slakes in water after soaking 24 hours.

Type location: About 5 miles north of Clear Creek; at the southeast corner of the northeast 1/4 of the northwest 1/4 of Sec. 15, T.29 N., R.8 E.

Range in Characteristics:

Soil moisture: Usually moist, dry from August to November. Xeric moisture regime.

Soil temperature: 44 to 46 degrees F.

Solum thickness and depth to a lithic or paralithic contact: 40 to 60 inches.

Surface rock fragments: 5 to 20 percent stones; 0 to 10 percent cobbles, and 20 to 40 percent gravel.

A and AB horizon:

Hue—5Y, 7.5YR, 10YR.

Value—4 to 5 dry, 3 or 4 moist.

Chroma—2 through 6 dry and moist.

Rock fragments—5 to 60 percent stones, 0 to 5 percent cobbles, and 15 to 50 percent gravel.

Sodium fluoride pH—10.0 to 11.0.

2Bt horizon:

Hue—7.5Y, 5YR.

Value—5 dry, 4 moist.

Chroma—4 through 6 dry and moist.

Clay content—18 to 27 percent clay, modified by 40 to 70 percent rock fragments, mostly cobbles and gravel.

Reaction—Medium acid or slightly acid.
Sodium fluoride pH—less than 9.0.

Tahand series

The Tahand series consists of deep, well drained soils on mountain ridges, back slopes and plateaus. These soils formed in material weathered from basalt, andesite and volcanic ash. Slopes range from 2 to 30 percent.

Taxonomic class: Fine-loamy, isotic, frigid Andic Haploxeralfs

Typical pedon: Tahand gravelly sandy loam, located in map unit 378, forestland. (Colors are for dry soils unless otherwise noted).

A1—0 to 3 inches; brown (7.5YR 4/3) gravelly sandy loam, dark brown (7.5YR 3/2) moist; moderate fine granular structure; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; many very fine interstitial pores; 15 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

A2—3 to 8 inches; reddish brown (5YR 5/5) sandy loam, yellowish red (5YR 4/6) moist; weak very fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine tubular pores; 10 percent gravel; slightly acid (pH 6.5); abrupt wavy boundary.

Bt1—8 to 15 inches; yellowish red (5YR 5/6) gravelly loam, red (2.5YR 4/6) moist; moderate medium subangular blocky structure; slightly hard, friable, sticky and plastic; few very fine and fine roots; many very fine tubular pores; common moderately thick clay films on faces of peds and in pores; 20 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

Bt2—15 to 24 inches; yellowish red (5YR 5/6) gravelly clay loam, red (2.5YR 4/6) moist; moderate medium subangular blocky structure; slightly hard, friable, sticky and plastic; few very fine and fine roots; many very fine tubular pores; common moderately thick clay films on faces of peds and in pores; 20 percent gravel; 5 percent cobbles; slightly acid (pH 6.5); clear wavy boundary.

Bt3—24 to 34 inches; yellowish red (5YR 5/6) gravelly clay loam, red (2.5YR 4/6) moist; strong medium subangular blocky structure; hard, friable, sticky and plastic; few very fine and fine roots; many very fine tubular pores; many moderately thick clay films on faces of peds and in pores; 20 percent gravel; 5 percent cobbles; slightly acid (pH 6.5); clear wavy boundary.

BCt—34 to 46 inches; yellowish red (5YR 5/6) very gravelly clay loam, red (2.5YR 4/6) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine tubular pores; common thin clay films on faces of peds; 10 percent stones; 50 percent gravel; slightly acid (pH 6.5); abrupt irregular boundary.

Cr—46 to 56 inches; moderately weathered soft volcanic rock; easily crushed in hands.

Type location: About 1.8 miles north of Hwy 36 along Swain Mtn. Road to intersection; then 0.25 mile north and about 100 feet north of the landing on west side of road and 120 feet east of road; about 600 feet east and 400 feet north of the southwest corner of Section 28, T.29 N., R.8 E.

Range in Characteristics:

Soil moisture: Usually moist, dry from August to November. Xeric moisture regime.

Soil temperature: 41 to 47 degrees F.

The depth to soft bedrock: 40 inches to 60 inches.

Base saturation by sum of cations: 35 to 50 percent.

A horizon:

Hue—7.5Y, 5YR.

Value—4 to 5 dry, 3 or 4 moist.

Chroma—2 through 6 dry and moist. Moist chromas of 2 or 3 occur only in the upper 6 inches.

Texture—It is sandy loam or loam modified by 15 to 50 percent gravel and 0 to 25 percent stones and cobbles.

Reaction—Slightly or moderately acid.

Bulk density—0.6 to 0.96

Bt horizon:

Hue—5YR, 2.5YR.

Value—4 through 6 dry, 4 moist.

Chroma—4 through 5 dry and moist.

Texture—Loam or clay loam with 25 to 35 percent clay modified by 15 to 35 percent gravel in the upper 20 inches and 35 to 50 percent gravel below.

Reaction—Slightly through strongly acid.

BCt horizon:

Reaction—BCt is slightly through strongly acid.

Base saturation—35 to 40 percent.

Tanob series

The Tanob series consists of moderately deep, well drained soils on mountain toe slopes. These soils formed in residuum weathered from granite. Slopes range from 9 to 30 percent.

Taxonomic class: Coarse-loamy, mixed, superactive, frigid Ultic Argixerolls

Typical pedon: Tanob gravelly loamy coarse sand, located in map unit 235, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 10 inches; dark grayish brown (10YR 4/2) gravelly loamy coarse sand, very dark brown (10YR 2/2); moderate very fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; 15 percent 2 to 5 mm gravel; slightly acid (pH 6.4); abrupt smooth boundary.

Bt1—10 to 19 inches; pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and few fine roots; many very fine tubular pores; many thin clay films on faces of peds and in pores; slightly acid (pH 6.4); abrupt smooth boundary.

Bt2—19 to 26 inches; light yellowish brown (10YR 6/4) sandy loam, dark yellowish brown (10YR 4/4) moist, weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine tubular pores; few thin clay films on faces of peds and in pores; slightly acid (pH 6.4); abrupt wavy boundary.

Cr—26 inches; strongly weathered granite.

Type location: Location south of Red Rock Road; about 3,100 feet east and 1,100 feet south of northwest corner of Sec. 7, T.23 N., R.18 E.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring. Xeric moisture regime.

Soil temperature: 49 to 47 degrees F.

Solum thickness and depth to weathered bedrock: 20 to 40 inches.

Depth of mollic epipedon: 14 to 18 inches.

Base saturation: 50 to 75 percent in the mollic epipedon.

Depth to weathered bedrock: 20 to 40 inches.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Depth of horizon—10 to 14 inches thick.

Bt horizon :

Value—5 or 6 dry.

Chroma—3 or 4, dry or moist

Texture—Sandy loam or coarse sandy loam.

Termo series

The Termo series consists of deep, moderately well drained soils on lake terraces. These soils formed in alluvium weathered from basalt, andesite and tuff. Slopes range from 0 to 2 percent.

Taxonomic class: Very-fine, smectitic, mesic Vertic Natrargids

Typical pedon: Termo silty clay, located in map unit 380, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 2 inches; light brownish gray (10YR 6/2) silty clay, dark grayish brown (10YR 4/2) moist; moderate thin and medium platy structure; hard, very friable, sticky and plastic; common very fine and fine roots; many very fine and common fine interstitial pores; slightly alkaline (pH 7.6); abrupt smooth boundary.

BA—2 to 5 inches; light brownish gray (10YR 6/2) clay, dark grayish brown (10YR 4/2) moist; moderate very fine and fine angular blocky structure; hard, friable, sticky and plastic; common very fine and fine roots; many very fine and fine tubular and interstitial pores; sodium adsorption ratio is 12; slightly alkaline (pH 7.6); clear wavy boundary.

Btn1—5 to 12 inches; pale brown (10YR 6/3) clay, dark brown (10YR 4/3) moist; weak fine prismatic structure parting to moderate fine and medium angular blocky; very hard, friable, very sticky and very plastic; common very fine and fine few medium roots; common very fine and few fine tubular pores; few thin and moderately thick clay films on faces of peds and in pores; few pressure faces; sodium adsorption ratio is 14; slightly alkaline (pH 7.6); clear wavy boundary.

Btn2—12 to 18 inches; light brownish gray (10YR 6/2) clay; dark brown (10YR 4/3) moist; weak fine and medium prismatic structure parting to moderate medium and coarse angular blocky; very hard, friable, very sticky and very plastic; common very fine, fine and medium and few coarse roots; common very fine and few fine pores; common moderately thick clay

films on faces of peds and in pores; sodium adsorption ratio is 19; slightly alkaline (pH 7.8); gradual smooth boundary.

BCtn1—18 to 26 inches; pale brown (10YR 6/3) clay, dark brown (10YR 4/3) moist; weak fine and medium prismatic structure parting to moderate medium and coarse angular blocky; hard, very friable, sticky and plastic; common very fine and fine and few medium roots; common very fine and few fine pores; few thin clay films on faces of peds and in pores; sodium adsorption ratio is 22; moderately alkaline (pH 8.4); gradual smooth boundary.

BCtn2—26 to 38 inches; grayish brown (10YR 5/2) clay, very dark grayish brown (10YR 3/2) moist; weak fine and medium prismatic structure parting to moderate medium and coarse angular blocky; hard, very friable, sticky and plastic; few very fine and few fine roots; common very fine and few fine tubular pores; few thin clay films on faces of peds and in pores; sodium adsorption ratio is 19; moderately alkaline (pH 8.4); clear wavy boundary.

C—38 to 51 inches; light brownish gray (10YR 6/2) silty clay, dark grayish brown (10YR 4/2) moist; weak medium subangular blocky structure; hard, very friable, sticky and plastic; common very fine, few fine and medium roots; few very fine and fine tubular pores; sodium adsorption ratio is 17; moderately alkaline (pH 8.4); gradual wavy boundary.

Cyn1—51 to 60 inches; light brownish gray (2.5Y 6/2) silty clay, dark grayish brown (2.5Y 4/2); weak medium and coarse angular blocky structure; hard, friable, very sticky and plastic; few very fine roots; few very fine tubular pores; sodium adsorption ratio is 17; few fine and medium soft masses and crystals of gypsum; slightly effervescent, with disseminated lime; moderately alkaline (pH 8.4); clear wavy boundary.

Cyn2—60 to 65 inches; white (5Y 8/2) loam, pale yellow (5Y 8/3) moist; massive; hard, friable, slightly sticky and slightly plastic; common medium and large soft masses of gypsum and crystals 1 to 8 mm across; sodium adsorption ratio is 19; slightly effervescent, with disseminated lime; moderately alkaline (pH 8.4).

Type location: About 2.2 miles north of Ravendale on the dirt road east of the landing strip at Ravendale; 1,900 feet east and 500 feet north of the southwest corner of Section 2, T.34 N., R.14 E.

Range in Characteristics:

Soil moisture: Usually dry from June to November, moist from December to May. Aridic moisture regime bordering on xeric.

Soil temperature: 48 to 52 degrees F.

Solum thickness: 20 to 47 inches.

Depth to gypsum: 26 to 60 inches.

Organic carbon content of the upper 16 inches: 0.8 to 1.5 percent.

A horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3, dry and moist.

Reaction—Neutral or slightly alkaline.

Structure—Weak or moderate, thin, medium or thick platy or is weak or moderate fine or medium subangular blocky.

Clay content—50 to 55 percent.

BA horizon:

Hue—10YR, 7.5YR.

Value—5 through 7 dry, 3 or 4 moist.

Chroma—2 through 4, dry and moist.

Reaction—Slightly through moderately alkaline.

Btn horizon:

Hue—10YR, 7.5YR.

Value—6 dry, 3 or 4 moist.

Chroma—2 through 4 dry or moist.

Texture—Clay with a weighted average of 60 to 65 percent clay and less than 5 percent sand.

Reaction—Slightly through moderately alkaline.

Electrical conductivity—2 to 8 mmhos.

Sodium adsorption ratio—14 to 25. Few to common pressure faces occur in this horizon.

C and Cy horizons:

Hue—10YR, 2.5Y, 5Y.

Value—5 through 8 dry, 3 through 8 moist.

Clay content—50 to 60 percent in the C horizon to 20 to 45 percent in the Cy horizon.

Reaction—Slightly through moderately alkaline.

Electrical conductivity—8 to 20 mmhos.

Sodium adsorption ratio—15 to 30.

Gypsum—Few or common fine to large soft bodies and crystals of gypsum occur in the lower part of the horizon.

Toiyabe series

The Toiyabe series consists of shallow, excessively drained soils on mountain back slopes. These soils formed in residuum and colluvium weathered from granite. Slopes range from 2 to 50 percent.

Taxonomic class: Mixed, frigid, shallow Typic Xeropsamments

Typical pedon: Toiyabe gravelly loamy coarse sand, located in map unit 383, forestland. (Colors are for dry soils unless otherwise noted).

A—0 to 7 inches; brown (10YR 5/3) gravelly loamy coarse sand, dark brown (10YR 3/3) moist; single grain; loose, nonsticky and nonplastic; common very fine and fine roots; many very fine interstitial pores; 4 percent cobbles and 15 percent gravel; slightly acid (pH 6.5); clear smooth boundary.

C—7 to 15 inches; pale brown (10YR 6/3) gravelly loamy coarse sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; common very fine and fine roots; many very fine interstitial pores; 5 percent cobbles and 15 percent gravel; slightly acid (pH 6.5); abrupt wavy boundary.

Cr—15 to 19 inches; strongly weathered granite.

Type location: About 1.5 miles southeast of Eagle Lake; 200 feet uphill from a point 0.1 mile west of borrow area on sharp turn; 800 feet south and 1,600 feet west of the northeast corner of Sec. 16, T.31 N., R.11 E.

Range in Characteristics:

Soil moisture: Usually moist during winter and spring, dry during summer and early fall. Xeric moisture regime.

Soil temperature: 43 to 47 degrees F.

Ochric epipedon thickness: 6 to 9 inches.

Depth to bedrock: 10 to 20 inches to a paralithic contact.

The paralithic materials below the contact are weathered granitic rock such as granodiorite.

Particle-size control section:

Clay content—2 to 4 percent.

Rock fragments—15 to 35 percent, mainly fine pebbles and cobbles. Lithology of fragments are granitic rocks such as granodiorite and granite.

Reaction—Moderately acid to neutral (pH 5.6 to 7.3).

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 through 3, dry or moist.

C horizon:

Hue—10YR or 7.5YR.

Value—6 or 7 dry, 3 through 5 moist.

Chroma—2 or 3, dry or moist.

Texture—Gravelly loamy coarse sand, cobbly loamy coarse sand, loamy coarse sand, or coarse sand; Some pedons have thin subhorizons of sand.

Torriorthents

Torriorthents consist of very deep, well drained and moderately well drained soils on lower lakeshore terraces. These soils formed in lacustrine sediments by wave action from mixed rock sources. Slopes range from 0 to 2 percent.

Taxonomic class: Xeric Torriorthents

Representative pedon: Torriorthents loam, located in map unit 384, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 3 inches; light gray (5Y 7/1) loam, olive gray (5Y 5/2) moist; strong thin and medium subangular blocky structure; very hard, friable, slightly sticky and slightly plastic; few very fine, few fine and common medium roots; few very fine and few fine interstitial pores; 9 percent calcium carbonate equivalents; slightly effervescent, lime is disseminated; strongly alkaline (pH 8.5); clear wavy boundary.

C1—3 to 32 inches; pale yellow (5Y 7/4) stratified loam, olive (5Y 5/3) moist; moderate medium and thick platy structure; slightly hard, very friable, slightly sticky and nonplastic; few very fine and few fine roots; common very fine tubular pores; trace carbonate as CaCO₃; noneffervescent; strongly alkaline (pH 8.5); clear wavy boundary.

C2—32 to 60 inches; pale olive (5Y 6/4) stratified silt loam, olive (5Y 5/6) moist; common fine prominent yellow (10YR 7/8) mottles, common fine prominent yellowish brown (10YR 5/8) moist; massive; slightly hard, very friable, slightly sticky and nonplastic; few very fine roots; common very fine tubular pores; trace carbonate as CaCO₃; noneffervescent; strongly alkaline (pH 8.5).

Type location: About 1,000 feet past point where dirt road drops off terraces onto beach; 700 feet east and 1,200 feet north of southwest corner of Section 34, T.27 N., R.15 E., MDBM.

Range in Characteristics:

Soil moisture: Aridic moisture regime bordering on xeric.

A horizon:

Hue—2.5Y or 5Y.

Value—6 to 7 dry, 4 to 5 moist.

Chroma—1 through 3.

Effervescence—None or slight.

C horizon:

Value—6 through 8, dry 4 to 5 moist.

Chroma—2 through 6, dry or moist.

Texture—Stratified loamy sand, sandy loam, loam, silt loam, gravelly silt loam or silty clay loam.

Effervescence—None through strong.

Toulon series

The Toulon series consists of very deep, excessively drained soils on fan remnants. These soils formed in mixed alluvium. Slopes range from 2 to 5 percent.

Taxonomic class: Sandy-skeletal, mixed, mesic Typic Haplocambids

Typical pedon: Toulon very gravelly fine sandy loam, located in map unit 149, rangeland. (Colors are for dry soils unless otherwise noted). Surface area is covered by 55 percent gravel and 45 percent cobbles

A—0 to 3 inches; light gray (10YR 7/2) very gravelly fine sandy loam, grayish brown (10YR 5/2) moist; moderate medium and thick platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots, common very fine tubular and interstitial pores; 5 percent cobbles, 50 percent gravel; strongly effervescent: moderately alkaline (pH 8.0); clear wavy boundary.

Bw—3 to 14 inches; light gray (10YR 7/2) very gravelly sandy loam, grayish brown (10YR 5/2) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; common very fine tubular and interstitial pores; 5 percent cobbles, 35 percent gravel; few fine distinct brown (7.5YR 5/4) iron stains, dark brown (7.5YR 4/4) moist; strongly effervescent: moderately alkaline (pH 8.0); clear wavy boundary.

2Bk1—14 to 21 inches; light brownish gray (10YR 6/2) stratified very gravelly coarse sand, dark grayish brown (10YR 4/2) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine and common fine roots, many very fine and few fine interstitial pores; 40 percent gravel; thin lime coatings on undersides of rock fragments; strongly effervescent: moderately alkaline (pH 8.0); clear wavy boundary.

2Bk2—21 to 28 inches; pale brown (10YR 6/3) stratified extremely gravelly loamy coarse sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; common very fine and few fine roots; many very fine interstitial pores; 40 percent cobbles, 40 percent gravel; thin lime coatings on undersides of rock fragments; violently effervescent with

disseminated lime, 2 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); clear wavy boundary.

2Bk3—28 to 37 inches; very pale brown (10YR 7/3) stratified extremely gravelly loamy coarse sand, brown (10YR 5/3) moist; massive, slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular and few very fine interstitial pores; 40 percent gravel; thin lime coatings on underside of rock fragments; violently effervescent, lime segregated in many fine filaments, 3 percent calcium carbonate equivalent; moderately alkaline (pH 8.0); clear wavy boundary.

3Ck—37 to 60 inches; pale brown (10YR 6/3) stratified extremely cobbly coarse sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; common very fine roots; many very fine interstitial pores; 40 percent cobbles, 40 percent gravel; thick lime coatings on underside of all rock fragments; violently effervescent: 3 percent calcium carbonate equivalent; moderately alkaline (pH 8.0).

Type location: About 1,250 feet south and 1,500 feet east of the northwest corner of Sec. 10, T.28 N., R.16 E.

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods during winter and spring, dry summer to mid-fall. Typic aridic moisture regime.

Soil temperature: 53 to 57 degrees F.

Depth to base of cambic horizon: 13 to 20 inches.

Reaction: Moderately alkaline or strongly alkaline.

Salinity (EC): 0 to 4 mmhos/cm.

Sodicity (SAR): 0 to 12.

Gypsum content: 0 to 2 percent.

Other features: Soils on the lower parts of bars and terraces, commonly have thinner A and Bw horizons than those on higher parts.

A horizon:

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 4 or 5 moist.

Chroma—2 or 3, dry or moist.

Effervescence—Noneffervescent to violently effervescent.

Bw horizons:

Hue—2.5Y or 10YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Very gravelly sandy loam, very gravelly loam, or very gravelly coarse sandy loam.

Rock fragments—40 to 60 percent, mostly pebbles.

Consistence—Soft or slightly hard dry.

Effervescence—Slightly effervescent to violently effervescent.

Identifiable secondary carbonates—None to very few carbonate coats on the undersides of rock fragments.

Calcium carbonate equivalent—1 to 5 percent.

Redoximorphic features—Relict redox concentrations of iron commonly increase with depth.

Other features—Some pedons lack gypsum and fragments of tufa. Some pedons have thin strata of fine sandy loam and very fine sandy loam.

Bk horizons:

Hue—10YR, 7.5YR, or neutral (N).

Value—5 through 8 dry, 4 through 8 moist.

Chroma—0 through 2 dry, 0 through 4 moist.

Texture—Stratified gravelly coarse sand to extremely cobbly coarse sand.

Clay content—0 to 5 percent.

Rock fragments—Average 5 to 35 percent cobbles, 45 to 60 percent pebbles. Any single stratum may contain up to 80 percent pebbles or cobbles.

Lithology of fragments is mixed, but includes tufa.

Structure—Single grain or massive.

Consistence—Soft dry, very friable moist or is loose.

Calcium carbonate equivalent—1 to 5 percent.

Reaction—Moderately through strongly alkaline.

Truax series

The Truax series consist of deep to hardpan, well drained soils on fan remnants. These soils formed in mixed alluvium and lacustrine sediments. Slopes range from 0 to 5 percent.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Aridic Argixerolls

Typical pedon: Truax sandy loam, located in map unit 285, cropland. (Colors are for dry soils unless otherwise noted).

Ap—0 to 6 inches; grayish brown (10YR 5/2) sandy loam, very dark grayish brown (10YR 3/2) moist; strong thick platy structure; very hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine interstitial pores; neutral (pH 6.6); clear smooth boundary.

Bt1—6 to 15 inches; grayish brown (10YR 5/2) sandy clay loam, very dark grayish brown (10YR 3/2) moist; moderate coarse prismatic structure parting to strong medium and coarse angular blocky; very hard, friable,

sticky and plastic; common very fine and fine roots; many very fine interstitial and common very fine tubular pores; many thin and moderately thick clay films on faces of peds and in pores; neutral (pH 7.0); clear wavy boundary.

Bt2—15 to 22 inches; pale brown (10YR 6/3) sandy clay loam, brown (10YR 4/3) moist; strong fine, medium and coarse angular blocky structure; very hard, friable, sticky and plastic; common very fine and fine roots; many very fine interstitial and common very fine tubular pores; common thin and moderately thick clay films on faces of peds and in pores; neutral (pH 7.0); clear wavy boundary.

Bt3—22 to 27 inches; pale brown (10YR 6/3) sandy clay loam, olive brown (2.5Y 4/3) moist; weak fine and medium angular blocky structure; hard, very friable, sticky and plastic; common very fine roots; few very fine tubular and many very fine interstitial pores; common thin clay films on faces of peds and as bridges; slightly alkaline (pH 7.5); clear wavy boundary.

Bk—27 to 41 inches; light brownish gray (2.5Y 6/2) sandy loam, olive brown (2.5Y 4/4) moist; massive; hard, very friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular and many very fine interstitial pores; slightly calcareous, lime segregated in few fine and medium soft masses; slightly alkaline (pH 7.8); abrupt wavy boundary.

Bqkm—41 to 52 inches; pale yellow (5Y 7/3) continuous, strongly silica and lime cemented sandy loam, olive (5Y 4/3) moist; strong fine and medium platy structure; very hard, firm; roots matted at the upper horizon boundary; many very fine interstitial pores; strongly calcareous, lime segregated on the surface of horizontal plates; moderately alkaline (pH 8.0); clear irregular boundary.

2Ck—52 to 65 inches; pale olive (5Y 6/4) stratified sandy loam and sand, olive (5Y 4/3) moist; massive; hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; slightly calcareous, lime segregated in few fine soft masses; moderately alkaline (pH 8.0).

Type location: About 100 feet north of County Road 306 and 2,500 feet west of Co. Road 302; 2,500 feet west and 100 feet north of the southeast corner of Sec. 28, T.29 N., R.14 E.

Range in Characteristics:

Soil moisture: Usually dry more than half of the time.

Aridic moisture regime bordering on xeric.

Soil temperature: 48 to 52 degrees F.

Solum thickness: 25 to 32 inches.

Rock fragments: Stones 0 to 2 percent, cobbles 0 to 8 percent, gravel 0 to 5 percent.

Mollic epipedon: 14 to 19 inches thick.

Depth to strongly cemented hardpan: 40 to 60 inches.

A horizon:

Hue—7.5Y or 10YR.

Chroma—2 or 3.

Clay content—10 to 15 percent.

Reaction—Slightly acid or neutral.

Bt1 horizon:

Hue—7.5YR, 10YR.

Chroma—2 through 4 dry or moist.

Texture—Sandy clay loam or loam.

Clay content—20 to 26 percent.

Reaction—Slightly acid or neutral.

Bt2 horizon:

Hue—7.5YR, 10YR.

Value—5 dry, 3 or 4 moist.

Chroma—2 through 4.

Texture—Sandy clay loam or loam.

Clay content—20 to 25 percent.

Reaction—Slightly acid or neutral.

Cq horizon (when present):

Hue—7.5YR, 10YR.

Value—5 to 6 dry, 3 through 5 moist.

Chroma—2 through 6, dry or moist.

Reaction—Neutral or slightly alkaline.

Clay content—10 to 15 percent.

Truckee series

The Truckee series consists of very deep, poorly drained soils on flood plains. These soils formed in mixed alluvium. Slopes are 0 to 2 percent.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Fluvaquent Haploxerolls

Typical pedon: Truckee loam, located in map unit 386, pasture. (Colors are for dry soils unless otherwise noted).

A1—0 to 3 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; very friable, slightly sticky and slightly plastic; many very fine roots; many very fine interstitial pores; strongly effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

A2—3 to 17 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine and medium roots; many very fine interstitial pores; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

C—17 to 34 inches; light gray (10YR 7/2) stratified loam, grayish brown (10YR 5/2) moist; moderate medium and coarse subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine and fine, and few medium roots; many very fine and few fine interstitial pores; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Ab1—34 to 63 inches; grayish brown (10YR 5/2) stratified sandy loam, very dark grayish brown (10YR 3/2) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine and few fine interstitial pores; slightly effervescent; slightly alkaline (pH 7.5); clear wavy boundary.

Ab2—63 to 69 inches; grayish brown (10YR 5/2) stratified sandy clay loam, very dark grayish brown (10YR 3/2) moist; massive; hard, firm, sticky and plastic; few very fine roots; few very fine and fine interstitial pores; slightly alkaline (pH 7.5).

Type location: About 0.5 mile northeast of Buntingville; 200 feet south of the junction of County Road A3 and Hemphill Road; 1,400 feet west and 1,500 feet south of the northeast corner of Sec. 14, T.28 N., R.13 E.

Range in Characteristics:

Soil moisture: Saturated between 20 and 40 inches for at least 3 months or more during most years. Xeric moisture regime.

Soil temperature: 50 to 54 degrees F.

Mollic epipedon thickness: 10 to 20 inches.

Profile reaction: Moderately alkaline through very strongly alkaline. Some pedons have Ab horizons that are slightly alkaline.

Other features: The soil is violently to slightly effervescent.

Control section:

Clay content—18 to 25 percent.

Texture—Stratified sandy loam through silty clay loam.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 or 2.

Other features—Values of 4 and chromas of 3 may be present in areas with recent overwash.

C horizon:

Value—5 through 7 dry, 2 through 5 moist.

Chroma—1 through 3.

Other features—Horizons below 36 inches may be gleyed.

Tunnison series

The Tunnison series consists of moderately deep, well drained soils on plateaus. These soils formed in material weathered from andesite or basalt. Slopes range from 0 to 15 percent.

Taxonomic class: Very fine, smectitic, mesic Aridic Haploxererts

Typical pedon: Tunnison very stony clay, located in map unit 390, pasture. (Colors are for dry soils unless otherwise noted).

A1—0 to 1 inch; reddish brown (5YR 5/3) very stony clay, reddish brown (5YR 5/4) moist; strong fine and medium granular structure; slightly hard, very friable, very sticky and plastic; common very fine roots; many very fine interstitial pores; 20 percent stones; 25 percent cobbles and 10 percent gravel of hard, subrounded basalt; slightly alkaline (pH 7.5); clear wavy boundary.

Bw1—1 to 5 inches; reddish brown (5YR 5/3) clay, reddish brown (5YR 5/4) moist; strong coarse angular blocky structure; hard, very friable, very sticky and plastic; common very fine, few fine and medium roots; many very fine interstitial pores; vertical cracks 10 to 30 mm wide and about 3 to 6 inches apart; slightly alkaline (pH 7.5); clear wavy boundary.

Bw2—5 to 15 inches; reddish brown (5YR 5/3) clay, reddish brown (5YR 5/4) moist; strong coarse and very coarse prismatic structure; very hard, very friable, very sticky and very plastic; few very fine and fine roots; common very fine tubular pores; vertical cracks 10 to 20 mm wide and about 3 to 6 inches apart; pressure faces on 75 percent of ped faces; slightly alkaline (pH 7.5); clear wavy boundary.

Bss—15 to 27 inches; reddish brown (5YR 5/3) clay, reddish brown (5YR 5/4) moist; moderate coarse prismatic structure parting to moderate medium angular blocky; very hard, friable, very sticky and very plastic; few very fine, few fine and common medium roots; common very fine tubular pores; vertical cracks 10 to 20 mm wide and about 3 to 6 inches apart; wedge-shaped aggregates, 0.5 to 1.0 inch across with surface tilting 30 degrees from the horizontal and with continuous intersecting slickensides; slightly alkaline (pH 7.5); clear wavy boundary.

BC—27 to 31 inches; reddish brown (5YR 5/4) clay, reddish brown (5YR 4/3) moist; strong fine and medium angular blocky structure; hard, very friable, very sticky and very plastic; few very fine roots; common very fine tubular pores; common thick light reddish brown (5YR 6/4) clay films, reddish brown (5YR 4/4) moist; weathered in place on peds and in pores; slightly alkaline (pH 7.5); abrupt wavy boundary.

Crt—31 to 38 inches; reddish yellow (5YR 7/6) soft andesite, yellowish red (5YR 5/8) moist; weathered into medium and coarse plates in upper 2 to 3 inches with discontinuous silica coatings on underside of some plates; does not effervesce; can be dug with a spade; clear wavy boundary.

R—38 to 48 inches; hard, consolidated andesite.

Type location: About 10.8 miles southwest of Ravendale; 790 feet SSE of borrow pit which is 1.0 mile east of Horse Lake on road to Ravendale; 1,850 feet south and 900 feet east of northwest corner of Sec. 1, T.32 N., R.13 E., MDBM.

Range in Characteristics:

Soil moisture: Usually moist in the moisture control section during winter and spring, dry in summer and fall. Aridic moisture regime that borders on xeric.

Soil temperature: 47 to 50 degrees F.

Depth to base of cambic horizon: 20 to 35 inches.

Depth to bedrock: 20 to 35 inches to a paralithic contact; the paralithic materials below the contact are weathered andesite or basalt. Hard, unweathered bedrock is usually within 40 inches.

Slickensides and other vertic features: Wedge-shaped peds tilted 30 to 60 degrees from the horizontal and intersecting slickensides occur at some depth between 10 inches from the soil surface and the bedrock contact. When dry, vertical cracks 0.5 to 3 inches wide and 2 to 11 inches apart extend from the surface to at least 22 inches or to bedrock. These cracks remain open from about June 1 through mid-December, about 200 days and are closed from January 1 to mid-April, more than 60 consecutive days.

Control section:

Clay content—60 to 70 percent.

Other features—Commonly, 35 to 60 percent rock fragments cover the soil surface, mostly stones and cobbles.

A horizon:

Hue—5YR, 7.5YR.

Value—4 or 5 dry, 4 or 5 moist.

Chroma—2 through 4 dry or moist.

Clay content—55 to 70 percent.

Reaction—Neutral or slightly alkaline.

Bw and Bss horizons and BC horizon:

Hue—5YR, 7.5YR.

Value—4 or 5 dry, 4 or 5 moist.

Chroma—2 through 4 dry or moist.

Clay content—60 to 70 percent.

Reaction—Neutral or slightly alkaline.

Other features—Identifiable secondary carbonates occur at depths from 23 to 30 inches in some pedons.

Ulhalf series

The Ulhalf series consists of deep, well drained soils on plateau tops and mountain back slopes or toe slopes. These soils formed in residuum and colluvium weathered from basalt or andesite or metavolcanic rock. Slopes range from 2 to 50 percent.

Taxonomic class: Fine-loamy, isotic, mesic Vitrandic Haploxeralfs

Typical pedon: Ulhalf very gravelly sandy loam, located in map unit 394, forestland. (Colors are for dry soils unless otherwise noted).

A—0 to 4 inches; reddish brown (5YR 5/3) very gravelly sandy loam, dark reddish brown (5YR 3/3) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine interstitial pores; 10 percent cobbles, 15 percent 5 to 75 mm gravel and 10 percent 2 to 5 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

BA—4 to 13 inches; reddish brown (5YR 5/4) gravelly loam, dark reddish brown (5YR 3/4) moist; moderate medium and coarse subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; few very fine, common fine and medium roots; few very fine interstitial and tubular and few fine tubular pores; 10 percent cobbles, 10 percent 5 to 75 mm gravel and 10 percent 2 to 5 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

Bt1—13 to 18 inches; light reddish brown (5YR 6/4) gravelly loam, reddish brown (5YR 4/4) moist; strong medium and coarse subangular blocky structure; very hard, very friable, sticky and plastic; friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine interstitial pores; few thin clay film

on peds; 10 percent cobbles, 10 percent 5 to 75 mm gravel and 10 percent 2 to 5 mm gravel; slightly acid (pH 6.5); clear wavy boundary.

Bt2—18 to 37 inches; reddish yellow (5YR 6/6) gravelly clay loam, yellowish red (5YR 4/6) moist; strong medium and coarse subangular blocky structure; very hard, friable, sticky and plastic; few fine and medium roots; common very fine tubular pores; many moderately thick clay films on faces of peds and in pores; 15 percent 5 to 75 mm gravel and 15 percent 2 to 5 mm gravel; slightly acid (pH 6.5); gradual wavy boundary.

Bt3—37 to 54 inches; reddish yellow (5YR 6/6) gravelly clay loam, yellowish red (5YR 4/6) moist; strong medium and coarse subangular blocky structure; very hard, friable, sticky and plastic; few fine and medium roots; common very fine tubular pores; many moderately thick clay films on faces of peds and in pores; 15 percent 5 to 75 mm gravel and 15 percent 2 to 5 mm gravel; slightly acid (pH 6.5); abrupt wavy boundary.

Crt—54 to 64 inches; soft massive andesite; clay films in most vesicles; easily dug with spade.

Type location: About 4 miles west of Susanville; about 1.0 mile north of Paiute Creek on the Paul Bunyan Logging Road and 300 feet north of the road; 2,400 feet west and 650 feet north of the southeast corner of Sec. 22, T.30 N., R.11 E.

Range in Characteristics:

Soil moisture: Usually dry May 16 through November 30, moist December 1 through May 15. Xeric moisture regime.

Soil temperature: 47 to 50 degrees F.

Solum thickness depth to the paralithic contact: 40 to 60 inches.

Base saturation: 50 to 75 percent.

Rock fragments: 10 to 15 percent cobbles and 10 to 40 percent gravel.

A horizon:

Hue—5YR, 7.5YR.

Chroma—3 or 4 dry or moist.

Texture—Loam or sandy loam.

Rock fragments—15 to 50 percent gravel.

BA and Bt1 horizons:

Value—5 or 6 dry, 3 or 4 moist.

Texture—Gravelly loam or very gravelly loam.

Rock fragments—20 to 40 percent gravel.

Clay content—20 to 25 percent.

Reaction—Slightly through medium acid.

Bt2 and Bt3 horizons:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—4 through 6 dry or moist.

Texture—Gravelly loam or gravelly clay loam.

Rock fragments—20 to 35 percent gravel.

Clay content—25 to 35 percent.

Reaction—Slightly through medium acid.

Verdico series

The Verdico series consists of moderately deep, well drained soils on rock pediments. These soils formed in residuum and colluvium weathered from tuff. Slopes range from 9 to 30 percent.

Taxonomic class: Fine, smectitic, mesic Vertic Paleargids

Typical pedon: Verdico cobbly sandy loam, located in map unit 395, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 3 inches; pale brown (10YR 6/3) cobbly sandy loam, dark brown (10YR 3/3) moist; weak very thin platy and moderate very fine and fine granular structure; soft, very friable, sticky and plastic; common very fine roots; many fine interstitial pores; 15 percent cobbles; 30 percent gravel; neutral (pH 7.3); abrupt wavy boundary.

Bt1—3 to 13 inches; pale brown (10YR 6/3) clay, brown (10YR 4/3) moist; moderate medium and coarse prismatic structure parting to strong medium and coarse angular blocky; very hard, friable, very sticky and very plastic; common very fine and few fine and medium roots; few very fine tubular pores; many moderately thick and thick pressure faces; many thin clay films in pores; 5 percent cobbles, 5 percent gravel; neutral (pH 7.3); clear wavy boundary.

Bt2—13 to 21 inches; light yellowish brown (10YR 6/4) clay, dark brown (10YR 4/3) moist; weak medium and coarse prismatic structure parting to moderate medium and coarse angular blocky; very hard, friable, very sticky and very plastic; few very fine and fine roots; few very fine tubular pores; many moderately thick and thick pressure faces; many thin clay films in pores; 5 percent cobbles, 5 percent gravel; neutral (pH 7.3); clear wavy boundary.

Bt3—21 to 29 inches; light yellowish brown (10YR 6/4) clay, dark yellowish brown (10YR 4/4) moist; moderate fine, medium and coarse angular blocky structure; very hard, friable, very sticky and very plastic; few very fine roots; common very fine tubular pores; many thin and moderately thick clay films on

faces of peds and in pores; 10 percent gravel; slightly alkaline (pH 7.8); clear wavy boundary.
 Cr—29 to 60 inches; soft weathered tuff with a few hard rock fragments; weak very thick platy structure; few fine lime coatings in some fractures.

Type location: About 1,800 feet west and 700 feet south of the unsurveyed northeast corner of Section 1, T.28 N., R.17 E.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring months. Aridic bordering on xeric soil moisture.

Soil temperature: 47 to 52 degrees F.

Depth to paralithic contact: 20 to 40 inches.

Solum thickness: 17 to 30 inches.

Control section:

Clay percent—45 to 60.

Rock fragments—0 to 10 percent pebbles.

Other features—Abrupt clay increase of 20 percent or more within a vertical distance of 1 inch or less between the A and Bt horizon. Linear extensibility is 6 centimeters or more.

A horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3.

Reaction—Slightly acid to neutral.

Bt horizons:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4.

Structure—Weak through strong prismatic.

Other features—Common, many or continuous pressure faces are in most pedons.

Reaction—Slightly acid to slightly alkaline

C horizon (when present):

Value—6 or 7 dry, 4 or 5 moist.

Texture—Clay loam and clay.

Clay content—35 to 50 percent clay.

Rock fragments—15 to 30 percent.

Reaction—Neutral or slightly alkaline.

Carbonates—None to few fine filaments and soft masses.

Taxonomic class: Fine-loamy, mixed, superactive, frigid Ultic Haploxeralfs

Typical pedon: Wafila gravelly sandy loam, located in map unit 339, forestland. (Colors are for dry soils unless otherwise noted).

A1—0 to 6 inches; brown (7.5YR 4/4) gravelly sandy loam, dark reddish brown (5YR 3/3) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and slightly plastic; many very fine and common fine roots; many very fine interstitial pores; 15 percent gravel; neutral (pH 6.6); clear smooth boundary.

A2—6 to 13 inches; strong brown (7.5YR 4/6) gravelly sandy loam, dark reddish brown (5YR 3/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and slightly plastic; many very fine, fine and medium roots; many very fine interstitial pores; 15 percent gravel; neutral (pH 6.6); clear smooth boundary.

2AB—13 to 24 inches; strong brown (7.5YR 4/6) very cobbly sandy loam, dark reddish brown (5YR 3/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and slightly plastic; many very fine and common fine and medium roots; many very fine interstitial pores; 30 percent cobbles; 25 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

3Bt—24 to 35 inches; strong brown (7.5YR 5/6) gravelly loam, reddish brown (5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine tubular pores; few thin clay films on faces of peds and in pores; 20 percent gravel; slightly acid (pH 6.5); clear wavy boundary.

4Bt—35 to 42 inches; strong brown (7.5YR 5/6) very cobbly loam, dark brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine, few fine, medium and coarse tubular pores; common thin clay films on faces of peds; a stone line consisting of 30 percent gravel and 25 percent cobbles; slightly acid (pH 6.5); clear smooth boundary.

5Bt—42 to 52 inches; strong brown (7.5YR 5/6) loam, dark reddish brown (5YR 3/4) moist; few medium distinct black manganese stains (5YR 2.5/1) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic, few very fine and fine roots; many very fine, few fine and medium tubular pores; common thin clay films on faces of peds; 10 percent gravel; slightly acid (pH 6.5); clear smooth boundary.

Wafila series

The Wafila series consists of deep and very deep, well drained soils in basins on plateaus. These soils formed in stratified alluvium overlying weathered basalt. Slopes range from 0 to 9 percent.

5CBt—52 to 62 inches; brown (7.5YR 4/4) weathered basalt, dark brown (7.5YR 3/4) moist; common medium distinct black manganese stains (5YR 2.5/1) moist; rock structure; crushes and textures to clay loam; slightly hard, firm, sticky and plastic; few very fine and fine roots; common very fine tubular pores; few thin clay films in pores; slightly acid (pH 6.5).

Type location: About 1 mile northwest of Westwood; on an old log deck, 75 feet west of cull log pile, 175 feet west of Forest road 29NO8, 1.2 miles north of its intersection with Hwy 36; 600 feet east and 1,500 feet south of the northwest corner of Sec. 31, T.29 N., R.9 E.

Range in Characteristics:

Soil moisture: Usually dry in all parts from August 1 to November 1, and is moist in some or all parts the rest of the time. Xeric moisture regime.

Soil temperature: 44 to 46 degrees F.

Solum thickness and depth to paralithic contact: 40 to 70 inches.

Depth to contact: 36 to 60 inches.

Control section:

Clay content—20 to 27 percent clay.

Rock fragments—25 to 35 percent rock fragments.

Reaction—Neutral or slightly acid.

Base saturation—35 to 50 percent.

A horizon:

Hue—7.5YR, 5YR.

Value—4 dry, 3 or 4 moist.

Chroma—3 through 6, dry or moist. Layers with moist chroma of 3 are less than 7 inches thick.

Texture—Loam or sandy loam.

Rock fragments—5 to 25 percent gravel.

3Bt and 4Bt horizons:

Hue—7.5YR, 5YR.

Value—5 or 6 dry, 3 through 6 moist.

Chroma—4 through 5, dry or moist.

Texture—Stratified with fine earth textures of loam.

Clay content—20 to 27 percent.

Rock fragments—15 to 60 percent rock fragments mostly cobbles and gravel.

5Bt horizon:

Hue—7.5YR, 5YR.

Value—4 through 6 dry, 3 to 4 moist.

Chroma—4 through 6, dry or moist.

Texture—Loam.

Clay content—20 to 27 percent clay.

Rock fragments—0 to 15 percent gravel.

Waterman series

The Waterman series consists of shallow, excessively drained soils on ridges. These soils formed in material weathered from granite. Slopes range from 9 to 50 percent.

Taxonomic class: Sandy-skeletal, mixed, mesic Lithic Xerorthents

Typical pedon: Waterman gravelly loamy coarse sand, located in map unit 154, forestland. (Colors are for dry soils unless otherwise noted). The surface is partially covered with 10 percent boulders.

A—0 to 7 inches; grayish brown (10YR 5/2) gravelly loamy coarse sand, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine roots; many very fine interstitial pores; 15 percent 2 to 5 mm gravel; slightly acid (pH 6.5); abrupt wavy boundary.

C—7 to 18 inches; pale brown (10YR 6/3) very gravelly loamy coarse sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; common very fine and few fine roots; many very fine interstitial pores; 25 percent gravel 2 to 5 mm across and 20 percent 5 to 75 mm gravel; slightly acid (pH 6.5); abrupt irregular boundary.

R—18 to 22 inches; very pale brown (10YR 8/3) granite, very pale brown (10YR 8/3) moist; massive rock; extremely hard; few fine roots; does not slake after soaking in sodium hexametaphosphate solution, can be broken out with a spade with difficulty; slightly acid (pH 6.5).

Type location: About 1.5 miles by following a right fork, then a left fork, then a right fork along the dirt road which is westbound from Hwy 395 at a point 0.4 mile south of the southern intersection of Lake Crest Road and Hwy 395; about 3.2 miles southeast of Buntingville; 200 feet south and 2,000 feet east of the northwest corner of Sec. 1, T.27 N., R.13 E., MDBM.

Range in Characteristics:

Soil moisture: 14 to 20 inches or to the top of the contact is usually dry from mid-June to late October and moist in some or all parts the rest of the year. Xeric moisture regime.

Soil temperature: 47 to 59 degrees F.

Depth to a fractured lithic contact: 10 to 20 inches.

Reaction: Medium acid through neutral.

A horizon:

Hue—10YR, 2.5Y.

Value—4 through 6 dry, 3 to 4 moist.

Texture—Gravelly loamy sand, or very gravelly loamy sand.

Rock fragments—15 to 50 percent. Bouldery phases are recognized with 5 to 15 percent surface coverage.

C horizon:

Hue—10YR, 2.5Y.

Value—5 through 7 dry, 4 to 5 moist.

Chroma—1 through 6.

Texture—Very gravelly loamy sand.

Rock fragments—35 to 60 percent.

Wespac series

The Wespac series consists of very deep, well drained soils on lake terraces. These soils formed in mixed lacustrine sediments. Slopes range from 0 to 2 percent.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Xeric Natrargids

Typical pedon: Wespac silt loam, located in map unit 397, rangeland. (Colors are for dry soils unless otherwise noted).

A—0 to 4 inches; light brownish gray (10YR 6/2) silt loam, very dark grayish brown (10YR 3/2) moist; weak very fine and fine platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine interstitial pores; moderately alkaline (pH 8.0) clear wavy boundary.

BAt—4 to 10 inches; light yellowish brown (10YR 6/4) silt loam, brown (10YR 4/3) moist; moderate very fine and fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; many very fine vesicular pores; few thin clay films bridge mineral grains; moderately alkaline (pH 8.0); clear wavy boundary.

Btn—10 to 19 inches; pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; weak medium prismatic structure parting to moderate very fine, fine and medium angular blocky; slightly hard, very friable, sticky and plastic; common very fine and few fine and medium roots; common very fine tubular pores; common thin clay films on faces of peds and in pores; slightly effervescent with disseminated lime; moderately alkaline (pH 8.0); clear wavy boundary.

BCnk—19 to 28 inches; very pale brown (10YR 7/3) loam, brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine tubular pores; strongly effervescent, lime segregated in few fine soft filaments; moderately alkaline (pH 8.0); clear wavy boundary.

C1—28 to 42 inches; white (2.5Y 8/2) loam, grayish brown (2.5Y 5/2) moist; weak medium platy structure; hard, friable, slightly sticky and slightly plastic; many very fine interstitial pores; ostracod shells present; violently effervescent with disseminated lime; moderately alkaline (pH 8.0); clear wavy boundary.

C2—42 to 60 inches; light gray (2.5Y 7/2) loam, olive brown (2.5Y 4/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; many very fine interstitial pores; violently effervescent with disseminated lime; moderately alkaline (pH 8.0).

Type location: Along the east boundary of the Sierra Army Depot, 1.0 miles north of Gate 443, 100 feet east of perimeter fence; 300 feet south and 100 feet east of the northwest corner of Sec. 9, T.27 N., R.17 E.

Range in Characteristics:

Soil moisture: Usually dry, moist from December 1 to April 15. Aridic moisture regime bordering on xeric.

Soil temperature: 53 to 56 degrees F.

Solum thickness: 14 to 20 inches.

A horizon:

Value—5 or 6 dry, 3 moist.

Chroma—2 to 3, dry or moist.

Texture—Sand, fine sandy loam, or silt loam.

Reaction—Slightly alkaline or moderately alkaline.

Effervescence—Noneffervescent to strongly effervescent.

Btn horizon:

Value—5 through 7 dry, 4 to 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Clay loam or sandy clay loam with a weighted average of 27 to 35 percent clay and 35 to 50 percent sand.

Reaction—Moderately alkaline or strongly alkaline.

Effervescence—Slightly effervescent to violently effervescent.

Sodium adsorption ratio—13 to 60.

Electrical conductivity—4 to 8 mmhos.

BCnk and C horizon:

Hue—10YR, 2.5Y, 5Y.

Value—6 to 8 dry, 4 to 5 moist.

Chroma—2 to 3, dry or moist.

Clay content—15 to 20 percent. Some pedons lack secondary filaments of gypsum and some pedons have C horizons with secondary carbonates.

Texture—Sandy substratum phases are recognized that have stratified fine sand and sand 2C horizons at a depth of 30 to 60 inches.

Electrical conductivity—8 to 16 mmhos

Sodium adsorption ratio—60 to 100.

2R—24 to 30 inches; hard and slightly weathered massive basalt; few vertical fractures 4 to 9 inches apart; slightly weathered in a rind about 2 inches thick; some soil in fractures.

Type location: About 3 miles northeast of Lake Almanor and about 3 miles north of Hwy 36 near the Lassen National Forest boundary; about 2,000 feet north and 200 feet east of the southwest corner of Section 24, T.29 N., R.7 E.

Range in Characteristics:

Soil moisture: Usually dry from August 1 to November 1. Moist in some or all parts the rest of the time. Xeric moisture regime.

Soil temperature: 44 to 46 degrees F.

Solum thickness and depth to bedrock: 20 to 40 inches.

Control section:

Acid-oxalate-extractable aluminum plus one half acid-oxalate-extractable iron-2.5 to 1.1 in the surface 10 to 18 inches.

Weste series

The Weste series consists of moderately deep, well drained soils on plateaus and mountain back slopes. These soils formed in residuum and colluvium weathered from basalt, andesite, and volcanic ash. Slopes range from 2 to 50 percent.

Taxonomic class: Loamy-skeletal, isotic, frigid Andic Haploxeralfs

Typical pedon: Weste very gravelly sandy loam, located in map unit 338, forestland. (Colors are for dry soils unless otherwise noted).

A—0 to 6 inches; reddish brown (5YR 4/3) very gravelly sandy loam, dark reddish brown (5YR 3/3) moist; weak very fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; 20 percent 2 to 5 mm gravel; 20 percent 5 to 75 mm gravel; sodium fluoride pH (10.6); slightly acid (pH 6.5); clear wavy boundary.

BA—6 to 14 inches; red (2.5YR 5/6) very gravelly sandy loam, dark reddish brown (2.5YR 3/4) moist; weak very fine and fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and fine and common coarse and very coarse roots; many very fine interstitial pores; 20 percent 2 to 5 mm gravel; 20 percent 5 to 75 mm gravel; sodium fluoride pH (9.6); slightly acid (pH 6.5).

2Bt—14 to 24 inches; yellowish red (5YR 5/6) very gravelly loam, dark reddish brown (5YR 3/4) moist; moderate fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, fine medium and coarse roots; common very fine tubular pores; few thin clay films on faces of peds and in pores; 10 percent cobbles; 40 percent gravel; sodium fluoride pH (9.0); slightly acid (pH 6.1); abrupt irregular boundary.

A horizon:

Hue—5YR, 7.5YR.

Value—4 dry, 2 to 3 moist.

Chroma—2 to 3, dry or moist.

Texture—Very gravelly, very bouldery, or very stony sandy loam.

Rock fragments—40 to 60 percent.

Sodium fluoride pH—9.8 to 10.6.

Bulk density—0.7 to 0.85 g/cc.

Base saturation by sum of cations—25 to 35 percent.

BA horizon:

Hue—2.5YR, 5YR, 7.5YR.

Value—4 to 5 dry, 3 moist.

Chroma—4 through 6, dry or moist.

Rock fragments—Mostly gravel, 40 to 60 percent.

Sodium fluoride pH—9.2 to 9.6.

Bulk density—0.9 to 0.98 g/cc.

Base saturation by sum of cations—20 to 35 percent.

2Bt horizon:

Hue—5YR, 7.5YR.

Value—4 to 5 dry, 3 moist.

Chroma—4 through 6 dry and moist.

Texture—Very gravelly or extremely cobbly loam.

Clay content—20 to 25 percent.

Rock fragments—50 to 70 percent.

Sodium fluoride pH—8.5 to 9.0.

Bulk density—0.9 to 0.98 g/cc.

Base saturation by sum of cations—35 to 50 percent.

Whiting series

The Whiting series consists of moderately deep, well drained soils on plateaus and mountain back slopes. These soils formed in residuum and colluvium weathered from basalt. Slopes range from 5 to 50 percent.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Typic Argixerolls

Typical pedon: Whiting very stony loam, located in map unit 213, forestland. (Colors are for dry soils unless otherwise noted).

A—0 to 6 inches; brown (10YR 4/3); very stony loam, dark brown (7.5YR 3/2) moist; weak fine and medium subangular blocky structure parting to very fine and fine granular; soft, friable, slightly sticky and slightly plastic; common very fine and few fine roots; many very fine interstitial and tubular pores; 10 percent stones, 20 percent cobbles, and 20 percent gravel; neutral (pH 7.0); clear smooth boundary.

Bt1—6 to 15 inches; brown (10YR 4/3) very stony clay loam, dark brown (7.5YR 3/2) moist; moderate fine and medium subangular blocky structure; slightly hard, firm, sticky and plastic; common fine, medium and coarse roots; common very fine and fine and few medium tubular pores; many thin clay films on faces of peds and in pores; 20 percent stones, 10 percent cobbles and 20 percent gravel; slightly acid (pH 6.5); gradual smooth boundary.

Bt2—15 to 26 inches; dark yellowish brown (10YR 4/4) very cobbly clay loam, dark brown (7.5YR 3/4) moist; moderate fine and medium subangular blocky structure; slightly hard, firm, sticky and plastic; common fine and few medium roots; common very fine and fine and few medium tubular pores; many thin clay films on faces of peds and in pores; 5 percent stones, 20 percent cobbles, and 20 percent gravel; slightly acid (pH 6.5); abrupt wavy boundary.

Rt—26 to 36 inches; hard basalt, weathered enough in upper 2 inches to be cut by a knife; massive with a few 1/4 inch wide vertical fractures with soil and covered with clay films.

Type location: About 14 miles northwest of Termo at Moon Valley subdivision; about 0.25 mile west on Marmot Street to sharp turn, then 200 feet southeast and downhill; about 175 feet east and 100 feet north of the southwest corner of the northwest 1/4, northeast 1/4, Section 24, T.36 N., R.11 E., MDBM.

Range in Characteristics:

Soil moisture: Usually dry mid-July to mid-November and is moist in some or all parts the rest of the time. Xeric moisture regime.

Soil temperature: 47 to 52 degrees F.

Depth to bedrock: 20 to 40 inches.

Mollic epipedon: 10 to 20 inches thick and includes part of the Bt horizon.

Rock fragments: Mostly stones and cobbles, range from 3 to 50 percent.

A horizon:

Hue—10YR, 7.5YR, 5YR.

Value—4 to 5 dry, 2 to 3 moist.

Chroma—2 through 4, dry or moist.

Texture—Stony or very stony loam.

Clay content—20 to 25 percent clay

Rock fragments—15 to 50 percent.

Reaction—Slightly acid or neutral.

Bt horizon:

Hue—10YR, 7.5YR.

Value—4 to 5 dry, 3 to 4 moist.

Chroma—2 through 4, dry and moist.

Clay content—27 to 35 percent clay.

Rock fragments—35 to 60 percent, mainly stones and cobbles.

Reaction—Slightly acid to slightly alkaline.

Whorled series

The Whorled series consists of moderately deep, well drained soils on mountains and plateaus. These soils formed in material weathered from basalt, andesite and volcanic ash. Slopes range from 2 to 30 percent.

Taxonomic class: Medial-skeletal, amorphic, frigid Typic Haploxerands

Typical pedon: Whorled very gravelly sandy loam, located in map unit 401, forestland. (Colors are for dry soils unless otherwise noted).

A—0 to 5 inches; brown (10YR 4/3) very gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; moderate fine, medium and coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and fine and common medium roots; many very fine interstitial pores; 20 percent 2 to 5 mm gravel; 30 percent 5 to 75 mm gravel; sodium fluoride pH (11.5); slightly acid (pH 6.5); clear wavy boundary.

Bw1—5 to 12 inches; yellowish brown (10YR 5/4) extremely gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; moderate fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine, fine and medium and common coarse roots; many very fine interstitial pores; 15 percent cobbles; 20 percent 2 to 5 mm gravel; 30 percent 5 to 75 mm gravel; sodium fluoride pH (11.0); slightly acid (pH 6.5); clear wavy boundary.

Bw2—12 to 27 inches; yellowish brown (10YR 5/4) extremely gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; weak fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine, fine, medium and coarse roots; many very fine interstitial pores; 20 percent cobbles; 50 percent gravel; sodium fluoride pH (10.5); slightly acid (pH 6.5); abrupt irregular boundary.

R—27 to 31 inches; hard massive basalt; many horizontal fractures in upper 3 inches; a few pockets 5 inches deep with very coarse roots in them and some soil material.

Type location: About 7 miles northeast of Chester and 5 miles north of Hwy 36 near the Lassen National Forest boundary; (about 50 feet south and 100 feet west of the found west 1/16 corner on the north side of Sec. 18), about 1,200 feet east and 50 feet south of northwest corner of Sec. 18, T.29 N., R.8 E.

Range in Characteristics:

Soil moisture: Usually dry from August 1 to November 1 and is moist in some or all parts the rest of the time.

Xeric moisture regime.

Soil temperature: 44 to 46 degrees F.

Solum thickness and depth to bedrock: 25 to 35 inches, but ranges from 20 to 40 inches.

Clay content: 8 to 15 percent.

Rock fragments: 50 to 70 percent rock fragments, mostly gravel.

Base saturation by sum of cations: 10 to 25 percent.

A horizon:

Hue—10YR, 7.5YR.

Value—4 dry, 3 moist.

Chroma—2 through 4, moist and dry.

Rock fragments—45 to 55 percent.

Sodium fluoride pH—10.5 to 11.5.

Moist bulk density of the fine earth fraction—0.70 to 0.80 g/cc.

Bw horizon:

Hue—10YR, 7.5YR.

Value—4 through 7 dry, 3 through 5 moist.

Chroma—4 through 6.

Sodium fluoride pH—10.0 to 11.0.

Rock fragments—Very or extremely gravelly sandy loam with 50 to 70 percent rock fragments, mostly gravel.

Moist bulk density of the fine earth fraction—0.80 to 0.88 g/cc.

Woodwest series

The Woodwest series consists of shallow, somewhat excessively drained soils on plateaus. These soils formed in residuum and colluvium weathered from basalt, andesite, and volcanic ash. Slopes range from 0 to 9 percent.

Taxonomic class: Medial-skeletal, amorphic, frigid Lithic Haploxerands

Typical pedon: Woodwest very stony sandy loam, located in map unit 339, forestland. (Colors are for dry soils unless otherwise noted). Surface rock fragments are 15 percent stones, 10 percent cobbles, and 35 percent gravel.

A1—0 to 9 inches; dark brown (7.5YR 3/3) very stony sandy loam, very dark brown (10YR 2/2) moist; weak very fine granular structure; soft, very friable, nonsticky and slightly plastic; common very fine, few fine and medium roots; many very fine interstitial pores; 10 percent cobbles and 30 percent gravel; sodium fluoride pH (11.0); slightly acid (pH 6.5); clear smooth boundary.

A2—9 to 14 inches; brown (7.5YR 4/4) extremely cobbly sandy loam, dark brown (7.5YR 3/3) moist; weak fine granular structure; soft, very friable, nonsticky and slightly plastic; few very fine, common fine and medium roots, many very fine interstitial pores, 32 percent cobbles and 30 percent gravel; sodium fluoride pH (10.4); slightly acid (pH 6.5); clear smooth boundary.

Bw—14 to 19 inches; strong brown (7.5YR 4/6) extremely gravelly sandy loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; soft, very friable, nonsticky and slightly plastic; few very fine, fine and medium roots; many very fine interstitial pores; 15 percent cobbles and 55 percent gravel; sodium fluoride pH (10.4); slightly acid (pH 6.5); abrupt wavy boundary.

R—19 to 24 inches; fractured vesicular basalt with roots and soil in fractures.

Type location: About 4 miles west of Westwood; about 0.5 miles north of the intersection of Swain Mountain Road and Hwy 36 on Swain Mountain Road, 140 feet south of the point where the underground cable crosses the road, 60 feet west of road; 1,000 feet east and 100 feet south of the north 1/4 corner of Sec. 4, T.28 N., R.8 E.

Range in Characteristics:

Soil moisture: Usually dry from August 1 to November 1, and is moist in some or all parts the rest of the time.

Xeric moisture regime.

Soil temperature: 44 to 46 degrees F.

Solum thickness and depth to bedrock: 12 to 20 inches.

Rock fragments on the surface: 5 to 30 percent stones, 5 to 20 percent cobbles, and 20 to 40 percent gravel.

Umbric epipedon: 10 to 14 inches thick.

Sodium fluoride pH: 10.0 to 11.0.

Bulk density: 0.7 to 0.9 g/cc. 15 bar water content of the fine earth fraction ranges from 15 to 20 percent. Acid-oxalate-extractable aluminum plus one half acid-oxalate-extractable iron ranges from 3.5 to 2 throughout.

Base saturation by sum of cations: 20 to 30 percent.

Base saturation by ammonium acetate: 30 to 40 percent.

A horizon:

Hue—10YR, 7.5YR.

Value—3 to 4 dry, 2 to 3 moist.

Chroma—2 through 4, dry or moist.

Texture—Sandy loam.

Rock fragments—35 to 50 percent.

Bw horizon:

Hue—7.5YR, 5YR.

Value—4 dry, 3 to 4 moist.

Chroma—4 through 6, dry or moist.

Texture—Sandy loam.

Rock fragments—50 to 80 percent.

Clay content—7 to 12 percent.

Wylo series

The Wylo series consists of shallow, well drained soils on plateaus and mountains. These soils formed in residuum and colluvium weathered from basalt. Slopes range from 2 to 30 percent.

Taxonomic class: Clayey, smectitic, mesic, Lithic Argixerolls

Typical pedon: Wylo very stony loam, located in map unit 214, rangeland. (Colors are for dry soils unless otherwise noted). Surface area is covered by 15 percent stones and 15 percent cobbles.

A1—0 to 3 inches; grayish brown (10YR 5/2) very stony loam, very dark grayish brown (10YR 3/2) moist; weak thin and medium platy structure that parts to weak fine and medium granular; slightly hard, very friable, sticky and plastic; many very fine and fine roots; many very fine and fine tubular and interstitial pores; 15 percent gravel, 15 percent cobbles, and 15 percent stones; neutral (pH 7.0); clear wavy boundary.

A2—3 to 7 inches; grayish brown (10YR 5/2) very stony loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, sticky and plastic; many very fine and fine roots; many very fine and fine interstitial and tubular pores; 15 percent gravel, 15 percent stones, and 15 percent cobbles; neutral (pH 7.0); clear wavy boundary.

Bt1—7 to 11 inches; brown (7.5YR 5/2) gravelly clay loam, dark brown (7.5YR 3/2) moist; strong fine and medium subangular blocky structure; hard, very friable, very sticky and very plastic; common very fine roots; common very fine tubular pores; common moderately thick clay films on faces of peds and in pores; 15 percent gravel, 5 percent cobbles; neutral (pH 7.0); clear wavy boundary.

Bt2—11 to 15 inches; brown (7.5YR 5/4) gravelly clay, brown (7.5YR 4/4) moist; strong fine and medium prismatic structure parting to strong medium and coarse subangular blocky; very hard, friable, very sticky and very plastic; common very fine roots; common very fine tubular pores; many thick clay films on faces of peds and in pores; 20 percent gravel; neutral (pH 7.0); abrupt wavy boundary.

R—15 to 19 inches; hard fractured vesicular andesite with thin and moderately thick clay film coatings on faces of rock, in cracks and weathered in place; some soil material and few roots between fractures.

Type location: About 2,400 feet west and 1,200 feet south of the northeast corner of section 2, T.31 N, R.17 E. MBDM.

Range in Characteristics:

Soil moisture: Usually moist during winter and spring, dry during summer and fall. Aridic moisture regime that borders on xeric.

Soil temperature: 54 to 59 degrees F.

Mollic epipedon thickness: 7 to 11 inches, includes at least one upper subhorizon of the argillic horizon.

Depth to base of argillic horizon: 14 to 20 inches.

Depth to bedrock: 14 to 20 inches to a lithic contact.

Reaction: Neutral or slightly alkaline.

Control section:

Clay content—35 to 50 percent.

Rock fragments—15 to 35 percent, mainly pebbles and cobbles.

A horizon:

Hue—7.5YR or 10YR.

Chroma—2 or 3, dry or moist.

Organic matter content—1 or 2 percent.

Bt horizons:

Hue—7.5YR or 10YR.

Value—3 or 4 moist, 4 or 5 dry.

Chroma—2 or 3 in the Bt1 and Bt2 horizons, 3 or 4 in the Bt3 horizon, dry or moist.

Texture—Gravelly clay loam, gravelly clay, or cobbly clay.

Clay content—35 to 50 percent; some pedons have thin subhorizons with up to 55 percent.

Rock fragments—15 to 35 percent; some pedons have thin subhorizons with up to 45 percent.

Organic matter content—1 or 2 percent.

Xerolls

Xerolls consist of very deep, poorly drained through moderately well drained soils on lake shores. These soils formed in mixed alluvium. Slopes range from 0 to 2 percent.

Taxonomic class: Cumulic Haploxerolls

Representative pedon: Xerolls loamy coarse sand, located in map unit 405, pasture. (Colors are for dry soils unless otherwise noted).

A1—0 to 11 inches; grayish brown (2.5Y 5/2) loamy coarse sand, very dark grayish brown (2.5Y 3/2) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; common very fine interstitial pores; 10 percent 2 to 5 mm gravel; neutral (pH 7.0); clear wavy boundary.

A2—11 to 18 inches; light brownish gray (2.5Y 6/2) stratified loamy coarse sand, dark grayish brown (2.5Y 4/2) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic;

common very fine interstitial pores; 10 percent 2 to 5 mm gravel; neutral (pH 7.0); abrupt smooth boundary.

Ab—18 to 30 inches; gray (10YR 5/1) stratified loam, very dark gray (10YR 3/1) moist; massive; hard, firm, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; neutral (pH 7.0); clear wavy boundary.

C2—30 to 43 inches; grayish brown (2.5Y 5/2) stratified coarse sand, very dark grayish brown (2.5Y 3/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; no roots; many very fine interstitial pores; 10 percent 2 to 5 mm gravel; neutral (pH 7.0); clear wavy boundary.

C3—43 to 60 inches; light gray (2.5Y 7/2) stratified coarse sand, grayish brown (2.5Y 5/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; no roots; many very fine interstitial pores; 10 percent 2 to 5 mm gravel; neutral (pH 7.0).

Type location: About 5.0 miles northwest of the town of Milford; 0.5 mile east of US Hwy 395 at a point 1,100 feet south of Eagle Bros. Ranch headquarters; 1,300 feet east and 2,200 feet north of the southwest corner of Sec. 5, T.27 N., R.14 E.

Range in Characteristics:

Soil moisture: Xeric moisture regime.

A horizon:

Hue—10YR, 2.5Y.

Value—5 dry, 3 moist.

Chroma—0 through 3 dry and moist.

Texture—Stratified sand, loamy coarse sand, or sandy loam.

C horizon:

Hue—10YR, 2.5Y.

Value—5 through 7 dry, 3 through 5 moist.

Chroma—2 through 4 dry and moist.

Texture—Stratified coarse sand through loam.

Yobe series

The Yobe series consists of very deep, somewhat poorly drained soils on lake terraces. These soils formed in mixed lacustrine sediments. Slopes range from 0 to 2 percent.

Taxonomic class: Fine-silty, mixed, superactive, calcareous, mesic Aeric Halaquepts

Typical pedon: Yobe silt loam, located in map unit 406, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 4 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate very thick and thick platy structure; slightly hard, very friable, sticky and plastic; common very fine, fine and medium roots; common very fine, fine and medium tubular and interstitial pores; violently effervescent with disseminated lime; sodium adsorption ratio is 380; electrical conductivity is 13 mmhos; strongly alkaline (pH 8.8); abrupt wavy boundary.

A2—4 to 10 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, sticky and plastic; common medium, few very fine and fine roots; common very fine and medium tubular pores; violently effervescent with disseminated lime; electrical conductivity is 5 mmhos; strongly alkaline (pH 8.8); clear wavy boundary.

C1—10 to 16 inches; very pale brown (10YR 7/3) stratified silt loam, brown (10YR 5/3) moist; moderate coarse angular blocky structure; hard, very friable, sticky and plastic; few very fine roots; common very fine and fine tubular pores; violently effervescent with disseminated lime; sodium adsorption ratio is 76; electrical conductivity is 4 mmhos; strongly alkaline (pH 8.8); clear wavy boundary.

C2—16 to 23 inches; very pale brown (10YR 7/3) stratified silt loam, brown (10YR 5/3) moist; few distinct dark yellowish brown mottles (10YR 4/6) moist; strong medium angular blocky structure; hard, very friable, sticky and plastic; few very fine roots; common very fine and fine tubular pores; violently effervescent with disseminated lime; sodium adsorption ratio is 57; electrical conductivity is 3 mmhos; strongly alkaline (pH 8.6); clear wavy boundary.

C3—23 to 34 inches; very pale brown (10YR 7/3) stratified silt loam, brown (10YR 5/3) moist; moderate medium subangular blocky structure; hard, very firm, sticky and plastic; few very fine roots; common very fine and fine tubular pores; violently effervescent, lime segregated in many medium soft masses; sodium adsorption ratio is 21; electrical conductivity is 1 mmhos; strongly alkaline (pH 8.6); clear wavy boundary.

C4—34 to 51 inches; light gray (2.5Y 7/2) stratified silt loam, grayish brown (2.5Y 5/2) moist; few fine distinct brown (7.5YR 5/4) mottles, brown (7.5YR 4/4) moist; weak medium angular blocky structure; hard, very friable, sticky and plastic; few very fine roots; common very fine and fine tubular pores; strongly effervescent with disseminated lime; few silt coatings in pores; sodium adsorption ratio is 11; strongly alkaline (pH 8.6); clear wavy boundary.

C5—51 to 60 inches; light gray (2.5Y 7/2) stratified silty clay loam, grayish brown (2.5Y 5/2) moist; common medium distinct brown (7.5YR 5/4) mottles, brown (7.5YR 4/4) moist; weak medium angular blocky structure; firm, slightly sticky and slightly plastic; few very fine roots; common very fine and fine tubular pores; sodium adsorption ratio is 12; strongly effervescent with disseminated lime; strongly alkaline (pH 8.6).

Type location: About 1 mile southeast of Wendel, on the north side of the railroad tracks; 1,700 feet north and 2,300 feet east of the southwest corner of Sec. 30, T.29 N., R.16 E.

Range in Characteristics:

Soil moisture: The water table is at 3 to 4 feet for one month or more during most years and the capillary fringe moistens the soil to within at least 30 inches of the surface.

Soil temperature: 47 to 52 degrees F.

Control section:

Texture—Stratified very fine sandy loam to silt clay loam. When mixed has less than 15 percent sand coarser than very fine sand and 18 to 25 percent clay.

Exchangeable Sodium—SAR greater than 13, decreasing with depth below 20 inches.

A horizon:

Hue—10YR, 2.5Y.

Value—6 to 7 dry, 4 to 5 moist.

Chroma—2 through 4 dry or moist.

Structure—Strong thick or very thick platy structure.

Reaction—Strongly alkaline or very strongly alkaline.

C horizon:

Reaction—Moderately alkaline to strongly alkaline.

Texture—Very fine sandy loam, silt loam, silty clay loam and light silty clay.

Remarks

The soils mapped a Yobe in map unit 350 has 9 to 14 inch mean annual precipitation instead of 4 to 8 as described for the series mapped elsewhere. This difference, however, does not significantly affect their use and management.

Zephan series

The Zephan series consists of moderately deep, well drained soils on mountain back slopes. These soils

formed in residuum and colluvium weathered from metavolcanic rock. Slopes range from 30 to 50 percent.

Taxonomic class: Clayey-skeletal, smectitic, mesic
Xeric Haplargids

Typical pedon: Zephan stony sandy loam, located in map unit 256, rangeland. (Colors are for dry soils unless otherwise noted). Surface area is covered by 3 percent stones, 3 percent cobbles, and 10 percent gravel.

A—0 to 4 inches; pale brown (10YR 6/3) stony sandy loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; 3 percent stones, 3 percent cobbles, and 10 percent gravel; neutral (pH 7.0); clear smooth boundary.

Bt1—4 to 9 inches; light yellowish brown (10YR 6/4) very cobbly clay loam, dark yellowish brown (10YR 4/4) moist; moderate fine subangular blocky structure; hard, very friable, slightly sticky and plastic; common very fine and few fine and medium roots; many very fine tubular pores; common thin clay films on faces of peds; 30 percent cobbles and 10 percent gravel; neutral (pH 7.2); clear smooth boundary.

Bt2—9 to 18 inches; brownish yellow (10YR 6/6) very cobbly clay, dark yellowish brown (10YR 4/6) moist; strong medium subangular blocky structure; hard, friable, sticky and plastic; few very fine, fine and medium roots; many very fine tubular pores; many moderately thick clay films on faces of peds and in pores; 20 percent cobbles and 20 percent gravel; neutral (pH 7.2); clear smooth boundary.

Bt3—18 to 26 inches; brownish yellow (10YR 6/6) very cobbly clay loam, dark yellowish brown (10YR 4/6) moist; massive; hard, friable, sticky and plastic; few very fine, fine and medium roots; many very fine tubular pores; common moderately thick clay films on faces of peds and in pores; 10 percent cobbles and 25 percent gravel; neutral (pH 7.2); abrupt wavy.

Cr—26 to 42 inches; weathered metavolcanic rock.

R—42 inches; unweathered metavolcanic rock.

Type location: About 0.6 mile east of Hwy 395 on Red Rock Road and 400 feet north of road and 200 feet east of trail; 3,800 feet east and 600 feet south of northeast corner of Sec. 25, T.24 N., R.17 E.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring.
Aridic moisture regime bordering on xeric.

Soil temperature: 49 to 53 degrees F.

Control section:

Percent clay—35 to 45.

Rock fragments—35 to 60 percent.

Depth to paralithic contact—25 to 40 inches.

Depth to hard bedrock—40 to 50 inches.

A horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 through 4.

Reaction—Medium acid but ranges to neutral in some pedons.

B horizon:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, 4 or 5 moist.

Chroma—3 or 4 dominantly, but may be as high as 6 in the lower part of some pedons.

Textures—Clay, sandy clay, subhorizons may be sandy clay loam or heavy clay loam.

C horizon:

Other features—A thin medium acid or strongly acid C horizon occurs above bedrock in some pedons.

Zorravista series

The Zorravista series consists of very deep, excessively drained soils on sand dunes. These soils formed in sandy eolian material derived from mixed sources. Slopes are from 0 to 30 percent.

Taxonomic class: Mixed, mesic Xeric Torripsamments

Typical pedon: Zorravista loamy sand, located in map unit 407, rangeland. (Colors are for dry soils unless otherwise noted).

A1—0 to 4 inches; grayish brown (10YR 5/2) loamy sand, dark brown (10YR 3/3) moist; strong very coarse platy structure and very fine single grain; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine and common medium interstitial pores; 5 percent gravel; slightly effervescent with disseminated lime; moderately alkaline (pH 8.0); clear wavy boundary.

C1—4 to 8 inches; pale brown (10YR 6/3) stratified fine sand, dark brown (10YR 3/3) moist; strong coarse subangular blocky structure and strong medium platy; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine, common coarse roots; many very fine interstitial pores; violently effervescent

with disseminated lime and few fine filaments and threads; moderately alkaline (pH 8.0); clear wavy boundary.

C2—8 to 14 inches; light brownish gray (10YR 6/2) stratified sand, dark grayish brown (10YR 4/2) moist; strong medium and coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine, fine and medium roots; many very fine interstitial pores; violently effervescent with disseminated lime; moderately alkaline (pH 8.0); clear wavy boundary.

C3—14 to 24 inches; pale brown (10YR 6/3) and very dark gray (10YR 3/1) stratified fine sand, brown (10YR 4/3) and black (10YR 2/1) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine, fine medium and common coarse roots; many very fine interstitial pores; violently effervescent with disseminated lime; moderately alkaline (pH 8.0); clear wavy boundary.

C4—24 to 41 inches; variegated light gray (10YR 7/2) and dark gray (N 4/0) stratified fine sand, brown (10YR 5/3) and black (N 2/0) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine, fine and medium roots; many very fine interstitial and few very fine tubular pores violently effervescent with disseminated lime; 3 percent fresh water shells, 2 to 8 mm in diameter; moderately alkaline (pH 8.0); clear wavy boundary.

C5—41 to 60 inches; variegated light brownish gray (10YR 6/2) and dark gray (N 4/0) stratified fine sand, dark grayish brown (10YR 4/2) and black (N 2/0) moist; massive; soft, very friable; nonsticky and nonplastic; few fine roots; many very fine interstitial pores; violently effervescent with disseminated lime; 2 to 3 percent fresh water shells, 2 to 8 mm diameter; moderately alkaline (pH 8.0).

Type location: About 400 feet west and 150 feet north of the southeast corner of Sec. 18, T.29 N., R.16 E.

Range of Characteristics:

Soil moisture: Usually dry, dry mid-spring through fall, moist winter and early spring. Aridic moisture regime bordering xeric.

Soil temperature: 47 to 52 degrees F.

Other features: Effervescent to at least 20 inches.

Control section:

Clay content—Less than 5 percent.

A horizon:

Hue—10YR, 2.5Y.

Value—6 or 7 dry, 3 through 6 moist.

Chroma—1 through 4.

Reaction—Moderately alkaline or strongly alkaline.

Structure—Single grain or platy.

Effervescence—Slightly effervescent to strongly effervescent.

C horizons:

Hue—10YR or 2.5Y.

Value—5 through 8 dry, 3 through 6 moist.

Chroma—1 through 4.

Texture—Fine sand, sand or loamy fine sand.

Clay content—Less than 5 percent in the upper part.

Reaction—Slightly alkaline through strongly alkaline.

Structure—Single grain or massive.

Effervescence—Noneffervescent to strongly effervescent.

Consistence—Soft to slightly hard or loose dry, very friable or loose moist.

Other features—Some pedons contain lacustrine lake sediments below 44 inches.

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Glossary

ABC soil. A soil having an A, a B, and a C horizon.

Ablation till. Loose, permeable till deposited during the final downwasting of glacial ice. Lenses of crudely sorted sand and gravel are common.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alkali (sodic) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Alluvial cone. The material washed down the sides of mountains and hills by ephemeral streams and deposited at the mouth of gorges in the form of a moderately steep, conical mass descending equally in all directions from the point of issue.

Alluvial fan. The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Alpha,alpha-dipyridyl. A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Arroyo. The flat-floored channel of an ephemeral stream, commonly with very steep to vertical banks cut in alluvium.

Aspect. The direction in which a slope faces.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Back slope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Badland. Steep or very steep, commonly nonstony, barren land dissected by many intermittent drainage channels. Badland is most common in semiarid and arid regions where streams are entrenched in soft geologic material. Local relief generally ranges from 25 to 500 feet. Runoff potential is very high, and geologic erosion is active.

Bajada. A broad alluvial slope extending from the base of a mountain range out into a basin and formed by coalescence of separate alluvial fans.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Basal till. Compact glacial till deposited beneath the ice.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope. A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding planes. Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout. A shallow depression from which all or most of the soil material has been removed by the wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is exposed.

Bottom land. The normal flood plain of a stream, subject to flooding.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks. The steep and very steep broken land at the border of an upland summit that is dissected by ravines.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of

erosion. It can improve the habitat for some species of wildlife.

Butte. An isolated small mountain or hill with steep or precipitous sides and a top variously flat, rounded, or pointed that may be a residual mass isolated by erosion or an exposed volcanic neck.

Cable yarding. A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Caliche. A more or less cemented deposit of calcium carbonate in soils of warm-temperate, subhumid to arid areas. Caliche occurs as soft, thin layers in the soil or as hard, thick beds directly beneath the solum, or it is exposed at the surface by erosion.

California bearing ratio (CBR). The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Canyon. A long, deep, narrow, very steep sided valley with high, precipitous walls in an area of high local relief.

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

- Catsteps.** Very small, irregular terraces on steep hillsides, especially in pasture, formed by the trampling of cattle or the slippage of saturated soil.
- Cement rock.** Shaly limestone used in the manufacture of cement.
- Channery soil material.** Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.
- Chemical treatment.** Control of unwanted vegetation through the use of chemicals.
- Chiseling.** Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.
- Cirque.** A semicircular, concave, bowl-like area that has steep faces primarily resulting from glacial ice and snow abrasion.
- Clay.** As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.
- Clay depletions.** Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.
- Clay film.** A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.
- Claypan.** A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.
- Climax plant community.** The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.
- Coarse textured soil.** Sand or loamy sand.
- Cobble (or cobblestone).** A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.
- COLE (coefficient of linear extensibility).** See Linear extensibility.
- Colluvium.** Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.
- Complex slope.** Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.
- Complex, soil.** A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.
- Concretions.** Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.
- Congeliturbate.** Soil material disturbed by frost action.
- Conglomerate.** A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.
- Conservation cropping system.** Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.
- Conservation tillage.** A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.
- Consistence, soil.** Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coppice dune. A small dune of fine grained soil material stabilized around shrubs or small trees.

Coprogenous earth (sedimentary peat). Fecal material deposited in water by aquatic organisms.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Cuesta. A hill or ridge that has a gentle slope on one side and a steep slope on the other; specifically, an asymmetric, homoclinal ridge capped by resistant rock layers of slight or moderate dip.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delta. A body of alluvium having a surface that is nearly flat and fan shaped; deposited at or near the mouth of

a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Desert pavement. On a desert surface, a layer of gravel or larger fragments that was emplaced by upward movement of the underlying sediments or that remains after finer particles have been removed by running water or the wind.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized: excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Draw. A small stream valley that generally is more open and has broader bottom land than a ravine or gulch.

Drumlin. A low, smooth, elongated oval hill, mound, or ridge of compact glacial till. The longer axis is parallel to the path of the glacier and commonly has a blunt nose pointing in the direction from which the ice approached.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is

in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion pavement. A layer of gravel or stones that remains on the surface after fine particles are removed by sheet or rill erosion.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

Esker. A narrow, winding ridge of stratified gravelly and sandy drift deposited by a stream flowing in a tunnel beneath a glacier.

Extrusive rock. Igneous rock derived from deep-seated molten matter (magma) emplaced on the earth's surface.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fan terrace. A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity*, *normal moisture capacity*, or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. Area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Fluvial. Of or pertaining to rivers; produced by river action, as a fluvial plain.

Foothill. A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.

Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gilgai. Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.

Glacial drift. Pulverized and other rock material transported by glacial ice and then deposited. Also, the sorted and unsorted material deposited by streams flowing from glaciers.

Glacial outwash. Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.

Glacial till. Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.

Glaciofluvial deposits. Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.

Glaciolacustrine deposits. Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are interbedded or laminated.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Head out. To form a flower head.

Head slope. A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill

and a mountain is arbitrary and is dependent on local usage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant

cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. An elevated area between two drainageways that sheds water to those drainageways.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been

reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Kame. An irregular, short ridge or hill of stratified glacial drift.

Karst (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

Knoll. A small, low, rounded hill rising above adjacent landforms.

Ksat. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at 1/3 or 1/10 bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mesa. A broad, nearly flat topped and commonly isolated upland mass characterized by summit widths that are more than the heights of bounding erosional scarps.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine. An accumulation of earth, stones, and other debris deposited by a glacier. Some types are terminal, lateral, medial, and ground.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few*, *common*, and *many*; size—*fine*, *medium*, and *coarse*; and contrast—*faint*, *distinct*, and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

Mountain. A natural elevation of the land surface, rising more than 1,000 feet above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mudstone. Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making

up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

Nose slope. A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Outwash plain. A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleoterrace. An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan*, *fragipan*, *claypan*, *plowpan*, and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher lying areas of the erosion surface.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permafrost. Layers of soil, or even bedrock, occurring in arctic or subarctic regions, in which a temperature below freezing has existed continuously for a long time.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow.....	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid.....	2.0 to 6.0 inches
Rapid.....	6.0 to 20 inches
Very rapid.....	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plateau. An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.

Playa. The generally dry and nearly level lake plain that occupies the lowest parts of closed depressional areas, such as those on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation and runoff.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In

a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth).

Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland. Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid.....	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid.....	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid.....	5.6 to 6.0
Slightly acid.....	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8

Moderately alkaline.....	7.9 to 8.4
Strongly alkaline.....	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Red beds. Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before

reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saprolite. Unconsolidated residual material underlying the soil and grading to hard bedrock below.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Second bottom. The first terrace above the normal flood plain (or first bottom) of a river.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. Sedimentary rock made up of dominantly silt-sized particles.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A depression in the landscape where limestone has been dissolved.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slick spot. A small area of soil having a puddled, crusted, or smooth surface and an excess of exchangeable sodium. The soil generally is silty or clayey, is slippery when wet, and is low in productivity.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Sloughed till. Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial

ice. It may rest on other till, on glacial outwash, or on a glaciolacustrine deposit.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Sodic (alkali) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Sodicity. The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^+ to $\text{Ca}^{++} + \text{Mg}$. The degrees of sodicity and their respective ratios are:

Slight.....	less than 13:1
Moderate.....	13-30:1
Strong	more than 30:1

Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand.....	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt.....	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. A concentration of coarse fragments in a soil. Generally, it is indicative of an old weathered

surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Strippcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy (laminated)*, *prismatic (vertical axis of aggregates longer than horizontal)*, *columnar (prisms with rounded tops)*, *blocky (angular or subangular)*, and *granular*. *Structureless* soils are either single grain (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Talus. Fragments of rock and other soil material accumulated by gravity at the foot of cliffs or steep slopes.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terminal moraine. A belt of thick glacial drift that generally marks the termination of important glacial advances.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand*, *loamy sand*, *sandy loam*, *loam*, *silt loam*, *silt*, *sandy clay loam*, *clay loam*, *silty clay loam*, *sandy clay*, *silty clay*, and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till plain. An extensive area of nearly level to undulating soils underlain by glacial till.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tuff. A compacted deposit that is 50 percent or more volcanic ash and dust.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve. A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity

of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.



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Agriculture, Forest
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Department of Forestry
and Fire Protection

Soil Survey of Susanville Area, Parts of Lassen and Plumas Counties, California

Part II



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Use and Management

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as rangeland and forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, the system of land capability classification used by the Natural

Resources Conservation Service is explained, and prime farmland is described.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading "Detailed Soil Map Units." Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Farming Practices

By Nick Pappas, agronomist, Natural Resources Conservation Service

The following paragraphs discuss major soil limitations and some recommended management practices for the soils in the area suitable for irrigated and nonirrigated crops, hayland, and pastures. Farming recommendations for these soils are to overcome existing limitations to cropping, prevent soil erosion, preserve soil tilth, effectively use irrigation water, and control soil salts. Good farmland management practices ensure sustained productivity, help achieve better profits and assist in pest management.

Some recommended farming practices are *Chiseling and Subsoiling, Conservation Cropping Systems, Conservation Tillage, Crop Residue Management, Excess Water Removal, Hayland Management, Pasture Management, Land Leveling, Irrigation Water Management, Surface Water Control, Toxic Salt Reduction, and Water and Wind Erosion Control*. Use of these or other applicable practices depends upon land use goals, soil characteristics, crops, and capital investments. Limitations of some soils sometimes cannot be profitably corrected. Land use planning is important for profitable returns and prevention of soil degradation. Technical assistance on land use planning or specific problems can be obtained from the local Resource Conservation District (RCD), Natural Resources Conservation Service (NRCS), and the University of California Cooperative Extension.

Chiseling and Subsoiling are used to improve hardpan and plowpan limitations. These limitations

reduce the effective rooting depth, water holding capacity and permeability of the soil. Chiseling or subsoiling shatters the hardpan, increasing rooting depth, permeability and internal drainage, helping to prevent a perched water table. Chiseling also temporarily benefits soils that have a clay subsoil; however, these soils will eventually return to their normal condition. Soils which could benefit from chiseling and subsoiling are Modoc and Bieber.

Conservation Cropping Systems are approaches that can help to keep soils favorable for crop growth and sustained production. This approach takes into consideration all the tillage practices, fertilizer programs, pest control program, and crop rotations. All inputs are evaluated and managed to optimize production and minimize soil degradation. Economic benefits can be realized through reduced farming expenses and machinery costs. Intensive tillage practices reduce soil organic matter and destroy soil structure resulting in poor soil tilth, reduced water infiltration, loss of plant nutrients, increased susceptibility to erosion and poor crop performance.

A good cropping system includes cultural practices and crop rotations that offset the deleterious effects of continuous cropping. Crop selection is an important consideration. Tillage-intensive crops such as strawberry plants are soil deteriorating. A legume crop, such as alfalfa, adds nitrogen and organic matter to the soil. Properly managed hay and pasture crops build soil structure, enhance fertility and improve water-holding capacity.

A good cropping system also keeps soil erosion at an acceptable level. This can be accomplished by keeping vegetative or residue cover on the soil during periods when winds blow or water erosion occurs.

Farming with a planned cropping system can assist in weed and other pest control as well as maximize benefits of fertilizers and other chemical inputs.

Conservation Tillage is the reduction of conventional tillage operations necessary to control weeds, incorporate residues, break up the soil for favorable air and water movement, and prepare an adequate seedbed. It can vary from a no-till operation to something less than conventional tillage. *Crop residue management* is a very important component. Conservation tillage, in contrast to conventional tillage, provides soil protection but requires more intense management. Conservation tillage can also have financial benefits by decreasing production costs. The soils that benefit the most are soils with coarse textured surfaces that are susceptible to blowing such as Ardep, Mottsville, Modoc, Truax, and Springmeyer. Some of the major obstacles that must be considered when using conservation tillage are:

- 1) Handling of residue by tillage and planting machines.
- 2) Slow warm-up of cold and wet soils in the spring.
- 3) Fertilizer placement.

- 4) Pesticide effectiveness.
- 5) Crop response.
- 6) Farming tradition.

A systems approach is required for a good conservation tillage program. The crop production and soil conservation effects of the system must be evaluated to assure that the objectives are met. Interaction between successive tillage operations must be advantageous to achieve production and conservation results. Because of the high level of surface residues required for the success of conservation tillage, management of crop residues is essential. Conservation tillage can also affect both the pesticide and fertilizer programs. The soils and climatic conditions of the survey area can also affect conservation tillage operations. Due to the shorter growing season and colder temperatures, surface residues can slow spring warm-up of the soils and breakdown of residues. These effects will be greater on the wetter and finer textured soils. Individual farming needs should be considered when planning. Adjustments may be required and tighter management must be exercised.

Crop Residue Management is a very important no matter what type of tillage program is used to farm. Crop residues are a soil asset and can be used to an advantage in cropland management. Residues should be returned to the soil. They help to maintain soil tilth, replenish organic matter, and maintain soil structure. One big advantage of residues in the soils is their influence in the reduction of wind and water erosion. When possible, turning over grasses and green manure crops is an excellent practice. Crop residue management benefits all soils in the area.

Excessive Water Removal includes surface and subsurface water management to prevent or divert accumulations from rainfall, runoff, or irrigation. Excessive water removal reduces cropping limitations of alfalfa hay and can increase yields of other crops. Soils that can benefit from these practices are Saddlerock, Humboldt, Truckee, and Ravendale. The Truckee, Lakeview, and Saddlerock soils have seasonal water tables. This should be a consideration when cropping alfalfa hay on these soils. The water table varies from year to year so the problems are not always present. The high water table can destroy an alfalfa stand if the roots are in water during the growing season.

Surface Water Removal can remove limitations caused by water runoff accumulations in low lying areas, or tail water at the lower end of irrigated fields. Excess surface water causes poor crop performance and provides a habitat for weeds and mosquitoes. Cultural practices that reduce this limitation are proper land grading, tailwater recovery systems, and in most cases good irrigation water management. Surface water problems are mostly associated with the heavier textured soils with slow infiltration rates such as the

Ravendale and Saddlerock soils. Low-lying areas can require diversions, dikes, or canals to divert and control flood and other surface waters.

Toxic Salt Reduction can significantly improve crop performance. Salts in the rooting zone limit crop performance. Two different soil salt conditions are present in the soil survey area, saline-sodic or sodic. Sodic soil limitations are caused by sodium in the soil that can be toxic to crops and disperses the soil particles destroying soil structure. Lack of soil structure reduces or nearly eliminates water infiltration. In high enough concentrations, sodium is toxic to most plants.

Saline problems are caused by excessive amounts of salts, primarily calcium and magnesium, in the soil profile. The salts reduce water available to the crop and can be toxic to plants. Saline-sodic conditions exist when the soil has high concentrations of salts and sodium.

Saline conditions can be controlled by applying water in amounts sufficient to leach excessive salts below the root zone. There are limitations to soil reclamation. These problems are technical (methods of removing the salts) and also can be limited by financial and water resources. Sodic reclamation requires the addition of amendments to free the sodium so it can be leached below the root zone.

Erosion Control is needed on most soils. Soils that are on slopes greater than 2 percent are susceptible to water erosion and the coarse to medium textured soils are susceptible to wind erosion. The cold climatic condition limits vegetative cover during critical periods, compounding the erosion hazard. Water erosion occurs when the soils have sparse vegetative cover and raindrops strike the bare soil. When the soils are frozen and rainfall or a thaw occurs, surface water runoff causes severe erosion of the loose surface layer of soil. The soils where water erosion can be a problem are Calpine, Plinco, Mottsville, and Springmeyer.

Wind erosion hazards exist when no crop residue or vegetative cover is available for soil protection. Some coarse textured soils that fall into this category are Ardep, Mottsville, Fordey, and Springmeyer. The climate and farming practices are such that soils are usually bare, dry, and being farmed during periods of strong winds. Erosion protection requires planning and modification of cropping and cultural practices. Management should include surface coverage by crop residue or cover crop. Early fall seeding of cereal grains or ridge tillage can provide some protection from wind erosion. Permanent windbreaks are a sound, long-term investment and should be considered. They not only reduce the soil erosion but also can prevent crop damage from winds. Permanent windbreaks can be trees, shrubs, or perennial grasses.

Irrigation Design and Management is essential to all crops. Good designs for field irrigation grades, water delivery systems, and irrigation water management is important for profitable crops production and

conservation of soil and water resources. Irrigation methods that can be used in the survey area are furrow, border, sprinkler, and water spreading. For surface irrigation (furrow and border) the fields should be set at grades that use irrigation water efficiently, provide plant water needs, and preserve water quality. Slopes should be limited to less than 2 percent. Soil considerations are very important before grading of fields is attempted. Soil depth to pans or other restrictive layers should be investigated to ensure the finished field can adequately support nutrient and water requirements. Length of runs should be designed according to soil infiltration characteristics. Sprinkler irrigation systems are best adapted to soils with very high infiltration rates or slopes greater than 2 percent. Soils descriptions in the soil survey can provide the needed information for good decisions. Irrigation water management is dependent upon good soils information and interpretations. Irrigation water management is achieved by controlling the rate, amount, and timing of irrigation to apply water in a manner for maximum production without soil and water degradation. Good irrigation water management is profitable, conserves water and nutrients, and protects water quality.

Pastureland Management includes some basic consideration to protect the soil and sustain forage yields. Maintenance of desirable plants is a major consideration. Desirable plants are usually the most palatable. Weedy or undesirable plants usually thrive since livestock don't harvest them. To maintain a pasture of desirable plants, they must be grazed to levels that allow continued vigorous growth. This is only possible when enough leaf surface remains for regrowth. A good rotation-grazing plan should be developed that leaves adequate leaf material after grazing for recovery. Irrigation to meet plant requirements along with a fertilization program will net maximum production. When managing for maximum vegetative plant growth, soil moisture kept close to field capacity will give the best yields. Keeping animals off the pasture when it is wet can reduce soil compaction. Harrowing or dragging to scatter animal droppings will enhance pasture performance. Pastures can be managed to produce grass hay during the spring. Usually one cutting of 1 to 2 tons per acre can be harvested. Grazing should be deferred to allow the pasture to recover.

Hayland Management should be developed for sustained production and protection of the soil. Stand and production can be maintained by keeping the field clean of weed infestation and harvesting the forage at intervals which allow the plants to sustain a thrifty growth. Good irrigation management is essential. Over-irrigation can deplete soil oxygen levels. Alfalfa plants can't tolerate even short periods of water saturation. Plants die, or are attacked by disease and lose vigor. Grasses take advantage and infest the field. Soils with a high spring water table such as Blickenstaff, Artray, and Humboldt are poorly suited for alfalfa hay. Stands can

be severely damaged or destroyed during years of long high water table periods. Heavy-textured soils subject to flooding or ponding such as Truckee, Ravendale, Saddlerock, Pit, Gerlach, and Dryvalley are also poorly suited for alfalfa hay. Stands can be severely damaged or destroyed during periods of prolonged saturation during the growing season.

The main factors in managing irrigated cropland are conserving soil moisture, controlling wind and water erosion, and maintaining soil fertility.

Conserving soil moisture consists primarily of reducing the evaporation and runoff rates and increasing the water intake rate. Applying conservation tillage and conservation cropping systems, farming on the contour, strip cropping, establishing field windbreaks, and leaving crop residue on the surface conserve moisture. Conserving soil moisture may reduce the number of irrigations.

Generally, a combination of several practices is needed to control wind and water erosion. Conservation tillage, strip cropping, field windbreaks, tall grass barriers, contour farming, conservation cropping systems, crop residue management, diversions, and grassed waterways help to prevent excessive soil loss.

Measures that are effective in maintaining soil fertility include applying fertilizer, both organic and inorganic, including manure; incorporating crop residue or green manure crops into the soil; and using proper crop rotations. Controlling erosion helps to prevent the loss of organic matter and plant nutrients and thus helps to maintain productivity, although the level of fertility can be reduced even in areas where erosion is controlled. All soils used for irrigated crops respond well to applications of fertilizer.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *slight*, *moderate*, *severe* or *not limited*, *somewhat limited*, and *very limited*. The suitability ratings are

expressed as *well suited*, *moderately suited*, *poorly suited*, and *unsuited* or as *good*, *fair*, and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 5, "Land Capability Yields per Acre of Crops." In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 5 are grown in the survey area, but estimated yields are not listed

because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

The *productivity index* is a relative rating of the capacity of a soil to produce a specific plant under a defined management system. The index is determined from yield data on a few benchmark soils and is used to calculate yields, the net returns from crops, land assessment values, and taxes and to perform risk analysis when land management decisions are made.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects.

Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class.

They are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, 2*e*. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w*, *s*, or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or *recreation*.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, 2*e*-4 and 3*e*-6. These units are not given in all soil surveys.

The capability classification of map units in this survey area is given in the section "Detailed Soil Map Units" and in table 6, "Land Capability Classification". The irrigated capability classification of soils in cropland or pastureland are also shown in table 5, "Land Capability and Irrigated Yields Per Acre of Crops and Pasture".

Major Land Resource Areas

Capability classification is further refined by designating the land resource area in which the soils in a unit occur. A major land resource area is a broad geographic area that has a distinct combination of climate, topography, vegetation, land use, and general type of farming. Parts of four of these nationally designated areas are in the survey area. These areas and their numbers are: Klamath and Shasta Valleys and Basins (21), Sierra Nevada Range (22), Malheur High Plateau (23), and Carson Basin and Mountains (26).

Major Land Resource Area 21

Nearly half the survey area, the northern part, is in this area. The area is characterized by upland lava plateau interspersed with mountain valleys and lake basins. The natural vegetation is mainly perennial grasses and shrubs. Elevation mainly ranges from 4,300 to 6,500 feet. Observation Peak and McDonald

Peak reach elevations of nearly 8,000 feet. The average annual precipitation ranges from 12 to 16 inches, the average annual air temperature ranges from 43 to 48 degrees F., and the average frost-free season ranges from 60 to 100 days.

Within the survey area, most of the land in this resource area is used for livestock grazing. A few small areas are used for irrigated alfalfa hay and small grain crops.

Major Land Resource Area 22

The western edge of the survey area is in this area. The area is characterized by upland backslopes of granitic, volcanic, and metamorphic geology of the Sierra Nevada and Cascade ranges and high mountain valleys. The vegetation is mainly coniferous forest on the mountain backslopes and meadow grasses on the valley floors. Elevation ranges from 4,300 to 7,500 feet. The average annual precipitation ranges from 18 to 40 inches, the average annual air temperature ranges from 41 to 50 degrees F., and the average frost-free season ranges from 60 to 100 days. Within the survey area most of the land in this resource area is used for timber production and livestock grazing. A few small areas are used for urban development and Christmas tree production.

Major Land Resource Area 23

The eastern portion of the survey area is in this area. It includes the Honey Lake Valley, lava plateaus north of the communities of Litchfield and Wendel, and Secret Valley. Vegetation is mainly perennial grasses and shrubs. Elevation ranges from 4,000 to 5,500 feet. The average annual precipitation ranges from 6 to 12 inches, the average annual air temperature ranges from 48 to 53 degrees F., and the average frost-free season ranges from 80 to 130 days. Within the survey area, most of the land in this resource area is used for livestock grazing or irrigated crops. Crops include alfalfa hay and seed, small grains, pasture, corn, garlic, and strawberry plants. A few small areas are used for wildlife habitat and urban development.

Major Land Resource Area 26

The southeastern corner of the survey area is in this area. In this survey area, it is characterized by steeply sloping mountains of granitic geology separated by narrow valleys. Elevation ranges from 4,000 to 6,500 feet. The average annual precipitation ranges from 10 to 14 inches, the average annual air temperature ranges from 46 to 52 degrees F., and the average frost-free season ranges from 80 to 130 days. Within the survey area most of the land in this resource area is used for livestock grazing. A few small areas are used for irrigated alfalfa hay, wildlife habitat and urban development.

Rangeland

By Richard J. King, Range Conservationist, USDA, Soil Conservation Service

About 70 percent of the land in the survey area is rangeland. Cow-calf-stocker operations are the most common livestock enterprises.

Privately owned rangeland in the survey area is primarily in Honey Lake Valley and in numerous smaller, often isolated valleys. These parcels represent homesteaded tracts within the public domain. Adjacent plateau and mountainous areas are mostly federal lands administered by the Forest Service and Bureau of Land Management. About 60 percent of the survey area is federally owned. The interdependence of private and public grazing lands is very important to most livestock operations. Many of the operating units have permits for spring, summer, or fall grazing on these federal lands.

Cattle are either transported out of the higher elevations before winter for grazing in milder climates or are held on the private lands and fed hay during the winter. Calving normally begins in February and is completed by May. Calves are weaned in the fall and either sold or kept until the following year when sold as stockers or shipped to feedlots, depending on size.

Some cattle operations also include alfalfa hay enterprises. Hay is sold to supplement ranch income and some is kept as winter-feed. Some ranches have irrigated pasture consisting of meadows. Flood irrigation is practiced to enhance native vegetation or improved pastures.

The history of range use and condition in the survey area is very similar to the history of all our western rangeland. Serious overgrazing greatly changed the character of the native vegetation by the turn of the century. Despite the serious degradation of soil, plant, wildlife, and water resources that has occurred since pioneer days, substantial improvement has occurred. Rangeland in the survey area is now generally considered to be in better ecological condition than at any time during the past one hundred years.

Even with the gradual improvement of range conditions in recent decades, the rangeland still suffers from serious degradation in local areas. While poor livestock management is responsible in some areas, wild horses are widespread in the survey area and have severe impacts when their numbers are not adequately controlled. The vast majority of the acreage is far from its ecological potential to produce livestock, wildlife, recreation, wood products, and clean water. Obvious symptoms of past mismanagement over large areas are the lack of perennial grasses, dominance of sagebrush or annual grasses, invasion of junipers, and erosion.

Effective management of rangeland is dependent upon the management of all available human, financial, and land resources. This soil survey can help range managers better understand the capabilities of their land

resource. Such information is important in defining production and landscape goals.

Ecological Sites

In areas that have similar climate and topography, differences in the kind and amount of vegetation produced on rangeland are closely related to the kind of soil. Effective management is based on the relationship between the soils and vegetation and water.

Table 7, "Rangeland Productivity and Characteristic Plant Communities," shows, for each soil that supports rangeland vegetation or woodland understory, the ecological site and the potential annual production of vegetation in favorable, normal, and unfavorable years. An explanation of the column headings in table 7 follows.

An *ecological site* is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time throughout the soil development process; a characteristic hydrology, particularly infiltration and runoff, that has developed over time; and a characteristic plant community (kind and amount of vegetation). The hydrology of the site is influenced by development of the soil and plant community. The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. The plant community on an ecological site is typified by an association of species that differs from that of other ecological sites in the kind and/or proportion of species or in total production. Descriptions of ecological sites are provided in the Field Office Technical Guide, which is available in local offices of the Natural Resources Conservation Service.

Total dry-weight production is the amount of vegetation that can be expected to grow annually in a well managed area that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation for favorable, normal, and unfavorable years. In a favorable year, the amount and distribution of precipitation and the temperatures make growing conditions substantially better than average. In a normal year, growing conditions are about average. In an unfavorable year, growing conditions are well below average, generally because of low available soil moisture. Yields are adjusted to a common percent of air-dry moisture content.

Characteristic vegetation the grasses, forbs, and shrubs that make up most of the potential natural plant community on each soil is listed by common name. Under *rangeland composition*, the expected percentage of the total annual production is given for each species

making up the characteristic vegetation. The amount that can be used as forage depends on the kinds of grazing animals and on the grazing season.

Range Management

Range management requires knowledge of the kinds of soil and of the potential natural plant community. It also requires an evaluation of the present range similarity index and rangeland trend. Range similarity index is determined by comparing the present plant community with the potential natural plant community on a particular rangeland ecological site. The more closely the existing community resembles the potential community, the higher the range similarity index. Rangeland trend is defined as the direction of change in an existing plant community relative to the potential natural plant community. Further information about the range similarity index and rangeland trend is available in chapter 4 of the "National Range and Pasture Handbook", (<http://www.ftw.nrcs.usda.gov/glti/NRPH.html>).

The objective in range management is to control grazing so that the plants growing on a site are about the same in kind and amount as the potential natural plant community for that site. Such management generally results in the optimum production of vegetation, control of undesirable brush species, conservation of water, and control of erosion. Sometimes, however, an area with a range similarity index somewhat below the potential meets grazing needs, provides wildlife habitat, and protects soil and water resources.

A primary objective in range management is livestock control. Planned grazing systems, fencing, water development, herding, and the use of livestock attractants are common practices to gain better control of livestock. Livestock control minimizes overgrazing and maximizes the beneficial impacts of the animals.

Overgrazing occurs when individual forage plants are stressed too frequently or too severely during the growing season. Controlling the frequency and severity of grazing in order to minimize plant stress is best accomplished by controlling the time that animals have access to the plants. If adequate rest periods follow grazing, plant vigor and productivity will be optimized. Avoiding excessive rest periods is desirable on the range sites in this survey area. The beneficial impacts of animals include preventing perennial grass decadence through removal of old growth, increasing soil surface cover through feeding and trampling, creating a desirable seedbed, and planting seed. If rest periods are excessive, opportunities to improve range health and condition through the beneficial impacts of livestock will be missed. In summary, carefully controlling the time animals are in a pasture enables the rancher to optimize both productivity and the rate of range condition improvement.

Water runoff and evaporation are greatly affected by grazing management. The type, distribution, and amount of soil cover will determine how safely and effectively rain and snowmelt are received, stored, and released. Bare soil leads to erosion, less infiltration of water, more rapid runoff, and greater soil moisture lost to evaporation and unavailable for plant growth. Poor vegetative cover in channels can lead to serious stream bank and channel down cutting and widening when vegetation is no longer capable of withstanding concentrated flows.

Historically, vegetative and soil profile evidence all indicate juniper and sagebrush have increased dramatically since pioneer days. Wildfires from lightning and Indian activities served to keep the rangeland in the survey area relatively free of fire-sensitive sagebrush and juniper trees. Areas where the soil conditions are unfavorable for herbaceous growth probably burned less frequently or less intensely. These range sites have probably always had significant woody vegetation despite their low productivity.

In addition to burning young trees and brush, fire probably helped keep the perennial grasses vigorous. Perennial grasses provide a competitive barrier to woody tap-rooted seedlings. Overgrazing and lack of fire have reduced the vigor of perennial grasses in the survey area and have encouraged the establishment of sagebrush and juniper trees.

Brush encroachment, lack of perennial grasses, and erosion are symptoms of deteriorated range conditions. Range seeding, brush management, and erosion control practices can help improve deteriorated range conditions. However, range managers should ensure that the causes of these symptoms have been rectified before investing time and money. The overwhelming cause of poor range condition on most ranches is overgrazing and/or a lack of the beneficial impacts of livestock as discussed earlier.

Wildlife population diversity and stability should be an important consideration in range management plans. Wildlife can offer either opportunities or problems to land managers. Understanding and involving wildlife needs and tendencies can minimize conflicts and optimize benefits. The benefits of managing for wildlife can include increased income, reduced expenses, enhanced aesthetics, and recreation. See the wildlife habitat section in this soil survey for additional information. These concerns can be addressed through the process of conservation planning. Conservation plans should consider the organization of all land, financial, and human resources available. This process should be guided by clear production and landscape goals of the manager. Production goals should define what the manager wants to produce off the land. This may include livestock, wildlife, recreation, aesthetic, clean water, or some combination of products. Landscape goals should define what the range sites need to look

like in order to support the desired quantity and quality of production. Information in this soil survey can help the manager establish sound goals.

Significant facts about the range management of individual soils is discussed elsewhere in this soil survey under the heading of Detailed Soil Map Units.

The local offices of the Natural Resources Conservation Service and the University of California Cooperative Extension Service can provide additional information about the productivity and management concerns of these range sites as well as other conservation planning assistance.

Forest Productivity and Management

By Jack Bramhall, area forester, Natural Resources Conservation Service

Forestland in the soil survey area is located in the Almanor Basin, west of State Highway 139, along the west rim of Honey Lake Valley, and in the mountains on the west side of the Madeline Plains.

Juniper woodland covers the steep, rocky portions of land northeast of Susanville. Most of the juniper woodland is interspersed with rangeland that has been invaded by western juniper (*Juniperus occidentalis*). The primary uses for western juniper are firewood and fence posts.

Western juniper seems to favor the drier climates of MLRA 21. When the precipitation increases, the juniper gives way to Jeffrey or ponderosa pine, plants associated with MLRA 22.

Forest soils occupy 285,000 acres of the soil survey area, while juniper infested areas cover 200,000 acres. These acreages are part of the soil survey area and do not include national forest lands.

The forests of the soil survey area provide a variety of benefits to the residents and visitors of the area. The forestland provides important habitat for fish and wildlife. Forested watersheds help provide clean water for agricultural, recreational, and domestic uses. Many residents rely on the forestlands for home energy in the form of firewood. Still others derive their livelihood from the forest products industry. Forest products include softwood lumber, wood chips, and firewood, and are among the major export commodities.

Forest Productivity

The tables in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forest management.

In table 8, "Forest Productivity", the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that

dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands.

Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual", which is available in local offices of the Natural Resources Conservation Service or the Internet.

The volume of wood fiber, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Forest Management

In tables 9 through 13, interpretive ratings are given for various aspects of forest management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified forest management practice. *Well suited* indicates that the soil has features that are favorable for the specified practice and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately well suited* indicates that the soil has features that are moderately favorable for the specified practice. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified practice. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified practice or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified forest management practice (1.00) and the point at which the soil feature is not a limitation (0.00).

Rating class terms for fire damage and seedling mortality are expressed as *low*, *moderate*, and *high*. Where these terms are used, the numerical ratings indicate gradations between the point at which the potential for fire damage or seedling mortality is highest (1.00) and the point at which the potential is lowest (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils for forest management practices. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual", which is available in local offices of the Natural Resources Conservation Service or on the Internet.

For limitations affecting construction of haul roads and log landings, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Ratings in the column hazard of off-road or off-trail erosion are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The hazard is described as slight, moderate, severe, or very severe. A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures; including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may

require occasional maintenance; and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately well suited, or poorly suited to this use.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately well suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately well suited, or poorly suited to this use.

Ratings in the column *suitability for mechanical site preparation (surface)* are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 1-foot is considered in the ratings.

Ratings in the column *suitability for mechanical site preparation (deep)* are based on slope, depth to a restrictive layer, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

Ratings in the column *potential for damage to soil by fire* are based on texture of the surface layer, content of rock fragments and organic matter in the surface layer, thickness of the surface layer, and slope. The soils are described as having a low, moderate, or high potential for this kind of damage. The ratings indicate an evaluation of the potential impact of prescribed fires or wildfires that are intense enough to remove the duff layer and consume organic matter in the surface layer.

Ratings in the column *potential for seedling mortality* are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime,

aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality.

Special Considerations

If brush clearing or site preparation by tractor windrowing is considered as a reforestation technique, care should be taken to avoid removal of the upper part of the surface layer because the soils have nutrients concentrated there. Removal of the surface layer may increase mortality and reduce productivity. Windrows should be constructed on the contour to avoid soil erosion resulting from surface runoff concentration. Windrow piles should extend entirely across the cleared slope to catch the surface runoff, or extend beyond the ends of piles downslope. Decreasing the downslope distance between windrow piles can reduce soil erosion.

Many soils in the Almanor Basin are suited to growing sugar pine. White pine blister rust is a problem in sugar pine. Species of *Ribes* are an alternate host to the blister rust. Because of this potential problem with sugar pine survival, sugar pine is not recommended for reforestation in areas where *Ribes* plants are present in the understory.

Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, yards, fruit trees, gardens, and cropland from wind and snow; help to keep snow on fields; and provide food and cover for wildlife. Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The intervals depend on the erodibility of the soil.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well-prepared site and maintained in good condition.

Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or of the Cooperative Extension Service or from a commercial nursery.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for construction materials and water management. The ratings are based on observed performance of the soils

and on the data in the tables described under the heading "Soil Properties." Additional ratings for building site development and sanitary facilities are available from the local office of the NRCS.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Construction Materials

Tables 14 and 15, "Construction Materials," gives information about the soils as potential sources of gravel, sand, topsoil, reclamation material, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

Sand and gravel are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 14, "Construction Materials," only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

In table 14, "Construction Materials," the soils are rated *good*, *fair*, or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In table 15, "Construction Materials", the soils are rated *good*, *fair*, or *poor* as potential sources of topsoil, reclamation material, and roadfill. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil, reclamation material, or roadfill. The lower the number, the greater the limitation.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow

area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Water Management

Table 16, "Water Management", gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are

moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 17, "Engineering Index Properties," gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (2) and the system adopted by the American Association of State Highway and Transportation Officials (1).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard

Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical Properties

Table 18, "Physical Properties of the Soils," shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 18, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3 or

1/10 bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (Ksat) refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (Ksat). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3 or 1/10 bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 18, "Physical Properties of the Soils", the estimated content

of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in table 18 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are as follows:

1. Coarse sands, sands, fine sands, and very fine sands.
2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.
3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.
- 4L. Calcareous loams, silt loams, clay loams, and silty clay loams.
4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.
5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.

6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.
7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.
8. Soils that are not subject to wind erosion because of rock fragments on the surface or because of surface wetness.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Properties

Table 19, "Chemical Properties of the Soils," shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil.

Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Gypsum is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

Soil Features

Table 20, "Soil Features," gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Water Features

Table 21, "Water Features," gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained

sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. Table 21 indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 21 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to

5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered is the local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

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Glossary

ABC soil. A soil having an A, a B, and a C horizon.

Ablation till. Loose, permeable till deposited during the final downwasting of glacial ice. Lenses of crudely sorted sand and gravel are common.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alkali (sodic) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Alluvial cone. The material washed down the sides of mountains and hills by ephemeral streams and deposited at the mouth of gorges in the form of a moderately steep, conical mass descending equally in all directions from the point of issue.

Alluvial fan. The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Alpha,alpha-dipyridyl. A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Arroyo. The flat-floored channel of an ephemeral stream, commonly with very steep to vertical banks cut in alluvium.

Aspect. The direction in which a slope faces.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Back slope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, back slopes are commonly bounded by a convex shoulder above and a concave footslope below.

Badland. Steep or very steep, commonly nonstony, barren land dissected by many intermittent drainage channels. Badland is most common in semiarid and arid regions where streams are entrenched in soft geologic material. Local relief generally ranges from 25 to 500 feet. Runoff potential is very high, and geologic erosion is active.

Bajada. A broad alluvial slope extending from the base of a mountain range out into a basin and formed by coalescence of separate alluvial fans.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Basal till. Compact glacial till deposited beneath the ice.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope. A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding planes. Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout. A shallow depression from which all or most of the soil material has been removed by the wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is exposed.

Bottom land. The normal flood plain of a stream, subject to flooding.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breaks. The steep and very steep broken land at the border of an upland summit that is dissected by ravines.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of

erosion. It can improve the habitat for some species of wildlife.

Butte. An isolated small mountain or hill with steep or precipitous sides and a top variously flat, rounded, or pointed that may be a residual mass isolated by erosion or an exposed volcanic neck.

Cable yarding. A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Caliche. A more or less cemented deposit of calcium carbonate in soils of warm-temperate, subhumid to arid areas. Caliche occurs as soft, thin layers in the soil or as hard, thick beds directly beneath the solum, or it is exposed at the surface by erosion.

California bearing ratio (CBR). The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Canyon. A long, deep, narrow, very steep sided valley with high, precipitous walls in an area of high local relief.

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps. Very small, irregular terraces on steep hillsides, especially in pasture, formed by the trampling of cattle or the slippage of saturated soil.

Cement rock. Shaly limestone used in the manufacture of cement.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Cirque. A semicircular, concave, bowl-like area that has steep faces primarily resulting from glacial ice and snow abrasion.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Congeliturbate. Soil material disturbed by frost action.

Conglomerate. A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coppice dune. A small dune of fine grained soil material stabilized around shrubs or small trees.

Coprogenous earth (sedimentary peat). Fecal material deposited in water by aquatic organisms.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Cuesta. A hill or ridge that has a gentle slope on one side and a steep slope on the other; specifically, an asymmetric, homoclinal ridge capped by resistant rock layers of slight or moderate dip.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delta. A body of alluvium having a surface that is nearly flat and fan shaped; deposited at or near the mouth of

a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Desert pavement. On a desert surface, a layer of gravel or larger fragments that was emplaced by upward movement of the underlying sediments or that remains after finer particles have been removed by running water or the wind.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized: excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Draw. A small stream valley that generally is more open and has broader bottom land than a ravine or gulch.

Drumlin. A low, smooth, elongated oval hill, mound, or ridge of compact glacial till. The longer axis is parallel to the path of the glacier and commonly has a blunt nose pointing in the direction from which the ice approached.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is

in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion pavement. A layer of gravel or stones that remains on the surface after fine particles are removed by sheet or rill erosion.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

Esker. A narrow, winding ridge of stratified gravelly and sandy drift deposited by a stream flowing in a tunnel beneath a glacier.

Extrusive rock. Igneous rock derived from deep-seated molten matter (magma) emplaced on the earth's surface.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fan terrace. A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity*, *normal moisture capacity*, or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. Area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Fluvial. Of or pertaining to rivers; produced by river action, as a fluvial plain.

Foothill. A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.

Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gilgai. Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.

Glacial drift. Pulverized and other rock material transported by glacial ice and then deposited. Also, the sorted and unsorted material deposited by streams flowing from glaciers.

Glacial outwash. Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.

Glacial till. Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.

Glaciofluvial deposits. Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.

Glaciolacustrine deposits. Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are interbedded or laminated.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Head out. To form a flower head.

Head slope. A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill

and a mountain is arbitrary and is dependent on local usage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant

cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasesers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasesers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. An elevated area between two drainageways that sheds water to those drainageways.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been

reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Kame. An irregular, short ridge or hill of stratified glacial drift.

Karst (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

Knoll. A small, low, rounded hill rising above adjacent landforms.

Ksat. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at 1/3 or 1/10 bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mesa. A broad, nearly flat topped and commonly isolated upland mass characterized by summit widths that are more than the heights of bounding erosional scarps.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine. An accumulation of earth, stones, and other debris deposited by a glacier. Some types are terminal, lateral, medial, and ground.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few*, *common*, and *many*; size—*fine*, *medium*, and *coarse*; and contrast—*faint*, *distinct*, and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

Mountain. A natural elevation of the land surface, rising more than 1,000 feet above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mudstone. Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making

up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

Nose slope. A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Outwash plain. A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleoterrace. An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan*, *fragipan*, *claypan*, *plowpan*, and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher lying areas of the erosion surface.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permafrost. Layers of soil, or even bedrock, occurring in arctic or subarctic regions, in which a temperature below freezing has existed continuously for a long time.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow.....	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid.....	2.0 to 6.0 inches
Rapid.....	6.0 to 20 inches
Very rapid.....	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plateau. An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.

Playa. The generally dry and nearly level lake plain that occupies the lowest parts of closed depressional areas, such as those on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation and runoff.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In

a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth).

Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland. Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid.....	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid.....	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid.....	5.6 to 6.0
Slightly acid.....	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8

Moderately alkaline.....	7.9 to 8.4
Strongly alkaline.....	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Red beds. Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before

reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saprolite. Unconsolidated residual material underlying the soil and grading to hard bedrock below.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Second bottom. The first terrace above the normal flood plain (or first bottom) of a river.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. Sedimentary rock made up of dominantly silt-sized particles.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A depression in the landscape where limestone has been dissolved.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slick spot. A small area of soil having a puddled, crusted, or smooth surface and an excess of exchangeable sodium. The soil generally is silty or clayey, is slippery when wet, and is low in productivity.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Sloughed till. Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial

ice. It may rest on other till, on glacial outwash, or on a glaciolacustrine deposit.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Sodic (alkali) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Sodicity. The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^+ to $\text{Ca}^{++} + \text{Mg}$. The degrees of sodicity and their respective ratios are:

Slight.....	less than 13:1
Moderate.....	13-30:1
Strong	more than 30:1

Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand.....	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand.....	0.10 to 0.05
Silt.....	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. A concentration of coarse fragments in a soil. Generally, it is indicative of an old weathered

surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Strippcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy (laminated)*, *prismatic (vertical axis of aggregates longer than horizontal)*, *columnar (prisms with rounded tops)*, *blocky (angular or subangular)*, and *granular*. *Structureless* soils are either single grain (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Talus. Fragments of rock and other soil material accumulated by gravity at the foot of cliffs or steep slopes.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terminal moraine. A belt of thick glacial drift that generally marks the termination of important glacial advances.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand*, *loamy sand*, *sandy loam*, *loam*, *silt loam*, *silt*, *sandy clay loam*, *clay loam*, *silty clay loam*, *sandy clay*, *silty clay*, and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Till plain. An extensive area of nearly level to undulating soils underlain by glacial till.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tuff. A compacted deposit that is 50 percent or more volcanic ash and dust.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve. A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity

of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

TABLES

TABLE 1.—TEMPERATURE AND PRECIPITATION
(Recorded in the period 1961-90 at Susanville ARPT, California)

Month	Temperature			Precipitation							
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have--		Average number of growing degree days*	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snowfall
				Maximum temperature higher than--	Minimum temperature lower than--			Less than--	More than--		
	<u>°F</u>	<u>°F</u>	<u>°F</u>	<u>°F</u>	<u>°F</u>	<u>Units</u>	<u>In</u>	<u>In</u>	<u>In</u>		<u>In</u>
January	40.3	19.7	30.0	59	-6	9	2.56	0.74	4.03	5	7.7
February	47.0	24.6	35.8	65	1	35	1.82	0.47	2.90	4	2.5
March	53.3	28.3	40.8	73	10	92	1.52	0.64	2.26	4	4.4
April	61.0	31.9	46.4	82	18	207	0.63	0.17	1.03	2	0.6
May	71.4	38.6	55.0	92	24	469	0.77	0.23	1.26	2	0.1
June	80.8	45.6	63.2	98	30	693	0.64	0.15	1.14	1	0.0
July	89.4	49.7	69.5	101	35	912	0.29	0.09	0.58	0	0.0
August	87.7	48.3	68.0	100	35	863	0.25	0.06	0.51	0	0.0
September	78.7	41.4	60.1	94	26	594	0.46	0.13	0.98	1	0.1
October	66.5	33.5	50.0	86	18	314	1.26	0.15	2.31	2	0.1
November	51.1	27.1	39.1	70	8	77	1.95	0.52	3.10	4	2.8
December	41.4	20.8	31.1	59	-3	15	2.29	0.62	3.77	4	5.9
Yearly:											
Average	64.1	34.1	49.1	---	---	---	---	---	---	---	---
Extreme	105	-22	---	102	-9	---	---	---	---	---	---
Total	---	---	---	---	---	4,281	14.43	9.92	18.19	29	24.2

Average number of days per year with at least 1 inch of snow on the ground: 14

*A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40 degrees F).

TABLE 2.--FREEZE DATES IN SPRING AND FALL

(Recorded in the period 1961-90 at Susanville ARPT, California)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	May 9	May 24	June 20
2 years in 10 later than--	May 3	May 19	June 13
5 years in 10 later than--	April 22	May 10	May 30
First freezing temperature in fall:			
1 year in 10 earlier than--	September 28	September 15	September 5
2 years in 10 earlier than--	October 5	September 21	September 11
5 years in 10 earlier than--	October 18	October 2	September 21

TABLE 3.--GROWING SEASON

(Recorded in the period 1961-90 at Susanville ARPT, California)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	<u>Days</u>	<u>Days</u>	<u>Days</u>
9 years in 10	152	124	85
8 years in 10	161	131	95
5 years in 10	177	146	115
2 years in 10	194	161	134
1 year in 10	202	169	144

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Map symbol	Soil name	Lassen County	Plumas County	Total	
				Area	Extent
		Acres	Acres	Acres	Pct
101	Almanor-Whorled-Inville complex, 0 to 15 percent slopes-----	---	3,485	3,485	0.2
102	Alomax-Glean-Rock outcrop association, 9 to 50 percent slopes-----	8,430	---	8,430	0.4
103	Anawalt-Ninemile association, 5 to 15 percent slopes-----	27,670	---	27,670	1.4
104	Ardep sandy loam, 0 to 2 percent slopes-----	9,240	---	9,240	0.5
105	Ardep loam, 0 to 4 percent slopes-----	275	---	275	*
106	Ardep fine sandy loam, saline-sodic, 0 to 2 percent slopes-----	1,780	---	1,780	*
107	Ardep very fine sand, saline-sodic, 0 to 5 percent slopes-----	475	---	475	*
108	Ardep-Wespac-Zorravista complex, 0 to 5 percent slopes-----	640	---	640	*
109	Artray sandy loam, 2 to 9 percent slopes-----	770	---	770	*
110	Badenaugh stony sandy loam, 5 to 15 percent slopes-----	3,220	---	3,220	0.2
111	Baileycreek-Weste complex, 5 to 15 percent slopes-----	---	4,115	4,115	0.2
112	Baileycreek-Weste complex, 15 to 30 percent slopes-----	---	2,565	2,565	0.1
113	Baileycreek-Weste complex, 30 to 50 percent slopes-----	---	3,060	3,060	0.2
114	Barnard stony sandy loam, 2 to 15 percent slopes-----	1,300	---	1,300	*
115	Beckwourth-Fordney complex, 0 to 2 percent slopes-----	12,425	---	12,425	0.6
116	Bieber cobbly loam, 2 to 9 percent slopes-----	6,200	---	6,200	0.3
117	Biscaro clay loam, 0 to 2 percent slopes, ponded-----	440	---	440	*
118	Biscaro-Calnat complex, 0 to 2 percent slopes-----	1,270	---	1,270	*
119	Biscaro-Playas complex, 0 to 2 percent slopes-----	3,330	---	3,330	0.2
120	Blickenstaff sandy loam, 0 to 2 percent slopes-----	1,800	---	1,800	*
121	Honeylake clay loam, 0 to 1 percent slopes-----	1,330	---	1,330	*
122	Robert sandy loam, 0 to 2 percent slopes-----	8,740	---	8,740	0.4
123	Robert sandy loam, lake terrace, 0 to 2 percent slopes-----	2,130	---	2,130	0.1
124	Bonta coarse sandy loam, 9 to 15 percent slopes-----	1,080	---	1,080	*
125	Bonta coarse sandy loam, 15 to 30 percent slopes-----	970	---	970	*
126	Bonta gravelly sandy loam, 30 to 50 percent slopes-----	720	---	720	*
127	Boulder Lake silty clay, 0 to 1 percent slopes-----	4,480	---	4,480	0.2
128	Boulder Lake silty clay, wet, 0 to 1 percent slopes-----	3,235	---	3,235	0.2
129	Brubeck very cobbly clay, 2 to 5 percent slopes-----	4,770	---	4,770	0.2
130	Brubeck very cobbly clay, 5 to 30 percent slopes-----	3,030	---	3,030	0.2
131	Brubeck-Diaz association, 2 to 30 percent slopes-----	4,000	---	4,000	0.2
132	Brubeck-Loomis association, 2 to 30 percent slopes-----	1,000	---	1,000	*
133	Buckbay-Orhood-Devada association, 2 to 30 percent slopes-----	21,150	---	21,150	1.1
134	Buckbay-Orhood-Fredonyer association, 5 to 30 percent slopes-----	16,830	---	16,830	0.9

See footnote at end of table.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Lassen County	Plumas County	Total	
				Area	Extent
		Acres	Acres	Acres	Pct
135	Bucklake-Corral-Rubble land association, 30 to 50 percent slopes-----	3,285	---	3,285	0.2
136	Bunanch very gravelly loam, 9 to 30 percent slopes-----	700	---	700	*
137	Cagwin loamy coarse sand, 15 to 30 percent slopes-----	505	---	505	*
138	Cagwin loamy coarse sand, 30 to 50 percent slopes-----	320	---	320	*
139	Calnat sandy loam, 0 to 2 percent slopes-----	1,745	---	1,745	*
140	Calneva silt loam, 0 to 1 percent slopes-----	6,460	---	6,460	0.3
141	Calneva-Playas complex, 0 to 1 percent slopes	800	---	800	*
142	Calpine coarse sandy loam, 0 to 5 percent slopes-----	240	---	240	*
143	Calpine sandy loam, 0 to 2 percent slopes-----	3,420	---	3,420	0.2
144	Calpine sandy loam, 2 to 5 percent slopes-----	4,475	---	4,475	0.2
145	Calpine, warm, 0 to 15 percent slopes-----	995	---	995	*
146	Indiano-Chalco complex, 2 to 9 percent slopes	2,480	---	2,480	0.1
147	Capona-Rock outcrop complex, 2 to 9 percent slopes-----	4,550	---	4,550	0.2
148	Cewat very stony fine sandy loam, 5 to 15 percent slopes-----	755	---	755	*
149	Cewat-McConnel-Toulon association, 2 to 15 percent slopes-----	6,810	---	6,810	0.3
150	Chappuis coarse sandy loam, 0 to 2 percent slopes-----	725	---	725	*
151	Chappuis silt loam, 0 to 2 percent slopes-----	1,210	---	1,210	*
152	Chimney gravelly loamy coarse sand, 2 to 9 percent slopes-----	1,275	---	1,275	*
153	Chimney gravelly loamy coarse sand, 9 to 15 percent slopes-----	1,140	---	1,140	*
154	Chimney-Janile-Waterman association, 15 to 50 percent slopes-----	6,980	---	6,980	0.4
155	Chimney-Janile-Waterman association, 50 to 75 percent slopes-----	935	---	935	*
156	Chimney-Waterman association, 9 to 30 percent slopes-----	2,350	---	2,350	0.1
157	Chirpchatter sandy loam, 2 to 9 percent slopes-----	1,125	---	1,125	*
158	Cleghorn sandy loam, 0 to 2 percent slopes---	4,330	---	4,330	0.2
159	Cleghorn sandy loam, 2 to 5 percent slopes---	6,400	---	6,400	0.3
160	Cochran gravelly loam, 2 to 15 percent slopes	825	---	825	*
161	Cochran very cobbly loam, 5 to 15 percent slopes-----	7,320	---	7,320	0.4
162	Corral sandy loam, 0 to 2 percent slopes-----	1,880	---	1,880	*
163	Corral sandy loam, 2 to 5 percent slopes-----	350	---	350	*
164	Corral sandy loam, 5 to 15 percent slopes-----	6,710	---	6,710	0.3
165	Corral loam, 30 to 50 percent slopes-----	550	---	550	*
166	Corral very cobbly loam, 5 to 30 percent slopes-----	7,600	---	7,600	0.4
167	Corral-Chalco complex, 0 to 2 percent slopes-	425	---	425	*
168	Corral-Glenbrook complex, 15 to 50 percent slopes-----	3,000	---	3,000	0.2
169	Devada-Brubeck association, 2 to 9 percent slopes-----	21,500	---	21,500	1.1
170	Devada-Bucklake association, 2 to 30 percent slopes-----	9,800	---	9,800	0.5
171	Devada-Fivesprings-Rubble land association, 9 to 50 percent slopes-----	17,600	---	17,600	0.9
172	Devada-Gavel complex, 9 to 30 percent slopes-	570	---	570	*
173	Devada-Gavel-Whitinger association, 5 to 30 percent slopes-----	3,890	---	3,890	0.2

See footnote at end of table.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Lassen County	Plumas County	Total	
				Area	Extent
		Acres	Acres	Acres	Pct
174	Devada-Glean-Sumine association, 30 to 50 percent slopes-----	6,535	---	6,535	0.3
175	Devada-Longcreek association, 2 to 30 percent slopes-----	13,450	---	13,450	0.7
176	Devada-Orhood-Hart Camp association, 5 to 30 percent slopes-----	9,300	---	9,300	0.5
177	Devada-Papeek-Gavel complex, 30 to 50 percent slopes-----	1,130	---	1,130	*
178	Devada-Petesecreek-Fiddler association, 2 to 30 percent slopes-----	75,065	---	75,065	3.8
179	Devada-Rock outcrop association, 2 to 50 percent slopes-----	40,690	---	40,690	2.1
180	Dotta gravelly loam, 2 to 9 percent slopes---	870	---	870	*
181	Dotta gravelly loam, high water table, 0 to 5 percent slopes-----	940	---	940	*
182	Dryvalley silt loam, sandy substratum, 0 to 2 percent slopes-----	4,900	---	4,900	0.2
183	Dryvalley-Playas complex, 0 to 2 percent slopes-----	11,350	---	11,350	0.6
184	Eaglelake very gravelly loam, 2 to 9 percent slopes-----	2,415	---	2,415	0.1
185	Eaglelake-Outland-Weste complex, 9 to 30 percent slopes-----	28,079	---	28,079	1.4
186	Eaglelake-Outland-Weste complex, 30 to 50 percent slopes-----	2,450	---	2,450	0.1
187	Eaglelake-Outland-Weste complex, altered, 9 to 30 percent slopes-----	6,300	---	6,300	0.3
188	Eaglelake-Outland-Weste complex, altered, 30 to 50 percent slopes-----	1,925	---	1,925	*
189	Easte-Fredonyer association, 30 to 50 percent slopes-----	5,900	---	5,900	0.3
190	Easte-Roop complex, 5 to 30 percent slopes---	8,160	---	8,160	0.4
191	Easte-Roop complex, 30 to 50 percent-----	2,600	---	2,600	0.1
192	Epot-Playas complex, 0 to 2 percent slopes---	13,145	---	13,145	0.7
193	Epot-Ragtown-Playas complex, 0 to 2 percent slopes-----	6,100	---	6,100	0.3
194	Fiddler-Gavel-Rubble land complex, 5 to 30 percent slopes-----	3,875	---	3,875	0.2
195	Fiddler-Gavel-Rubble land association, 30 to 50 percent slopes-----	4,755	---	4,755	0.2
196	Fiddler-Madeline association, 5 to 30 percent slopes-----	11,760	---	11,760	0.6
197	Fiddler-Orhood-Petesecreek association, 5 to 30 percent slopes-----	18,300	---	18,300	0.9
198	Fivesprings-Longcreek association, 9 to 30 percent slopes-----	7,265	---	7,265	0.4
199	Fivesprings-Longcreek association, 30 to 50 percent slopes-----	1,840	---	1,840	*
200	Fivesprings-Longcreek-Rubble land association 9 to 50 percent slopes-----	10,970	---	10,970	0.6
201	Fivesprings-Rubble land-Devada association, 5 to 30 percent slopes-----	13,825	---	13,825	0.7
202	Fivesprings-Sumine association, 15 to 50 percent slopes-----	5,175	---	5,175	0.3
203	Pluents-Riverwash complex, 0 to 1 percent slopes-----	2,500	---	2,500	0.1
204	Fordney loamy sand, 0 to 2 percent slopes---	5,100	---	5,100	0.3
205	Fordney loamy fine sand, 0 to 5 percent slopes-----	260	---	260	*
206	Fordney loamy fine sand, wet, 0 to 2 percent slopes-----	260	---	260	*

See footnote at end of table.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Lassen County	Plumas County	Total	
				Area	Extent
		Acres	Acres	Acres	Pct
207	Forgay very gravelly sandy loam, 0 to 2 percent slopes-----	---	1,080	1,080	*
208	Forgay extremely gravelly sandy loam, 0 to 2 percent slopes-----	6,880	---	6,880	0.4
209	Fortstage fine sandy loam, 0 to 2 percent slopes-----	450	---	450	*
210	Fortstage silt loam, 0 to 2 percent slopes-----	1,670	---	1,670	*
211	Fraval-Fredonyer-Said association, 9 to 30 percent slopes-----	3,035	---	3,035	0.2
212	Fraval-Said complex, 5 to 30 percent slopes-----	4,600	---	4,600	0.2
213	Fredonyer-Whitinger-Orhood association, 30 to 50 percent slopes-----	11,100	---	11,100	0.6
214	Fulstone-Wylo association, 2 to 30 percent slopes-----	880	---	880	*
215	Galeppi sandy loam, 2 to 5 percent slopes-----	3,050	---	3,050	0.2
216	Galeppi sandy loam, 5 to 30 percent slopes-----	3,180	---	3,180	0.2
217	Galeppi-Glenbrook complex, 5 to 15 percent slopes-----	2,325	---	2,325	0.1
218	Gavel stony loam, 5 to 30 percent slopes-----	6,050	---	6,050	0.3
219	Gavel-Devada complex, 30 to 50 percent slopes-----	1,000	---	1,000	*
220	Gerlach silty clay, 2 to 9 percent slopes-----	2,765	---	2,765	0.1
221	Gerlach cobbly silty clay, 2 to 9 percent slopes-----	2,700	---	2,700	0.1
222	Gerlach-Ravendale complex, 0 to 4 percent slopes-----	2,945	---	2,945	0.2
223	Gerle sandy loam, 2 to 5 percent slopes-----	1,730	---	1,730	*
224	Gerle sandy loam, 30 to 50 percent slopes-----	100	---	100	*
225	Gerle complex, 30 to 70 percent slopes-----	810	---	810	*
226	Glean very gravelly sandy loam, 5 to 30 percent slopes-----	2,340	---	2,340	0.1
227	Glean very gravelly sandy loam, 30 to 50 percent slopes-----	1,485	---	1,485	*
228	Glean-Searles association, 30 to 50 percent slopes-----	4,225	---	4,225	0.2
229	Glenbrook-Graufels-Rock outcrop complex, 30 to 60 percent slopes-----	16,850	---	16,850	0.9
230	Graufels-Glenbrook complex, 5 to 30 percent slopes-----	2,950	---	2,950	0.2
231	Hagata-Playas complex, 0 to 2 percent slopes-----	2,770	---	2,770	0.1
232	Hangtown very cobbly sandy loam, 30 to 50 percent slopes-----	1,210	---	1,210	*
233	Hart Camp-Devada-Tunnison association, 2 to 15 percent slopes-----	8,330	---	8,330	0.4
234	Hart Camp-Madeline association, 9 to 15 percent slopes-----	5,405	---	5,405	0.3
235	Haypress-Tanob association, 15 to 50 percent slopes-----	475	---	475	*
236	Herjun loamy sand, 0 to 2 percent slopes-----	1,865	---	1,865	*
237	Herjun silt loam, 0 to 2 percent slopes-----	1,130	---	1,130	*
238	Highrock-Mazuma-Wespac association, 0 to 2 percent slopes-----	2,040	---	2,040	0.1
239	Highrock-Wespac-Zorravista complex, 0 to 2 percent slopes-----	5,000	---	5,000	0.3
240	Home Camp-Newlands association, 5 to 30 percent slopes-----	5,655	---	5,655	0.3
241	Honlak loam, 0 to 2 percent slopes-----	4,060	---	4,060	0.2
242	Horsecamp cobbly silty clay, 2 to 9 percent slopes-----	7,535	---	7,535	0.4
243	Horsecamp-Brubeck association, 2 to 9 percent slopes-----	35,650	---	35,650	1.8
244	Horsecamp-Hunnton complex, 2 to 9 percent slopes-----	2,685	---	2,685	0.1

See footnote at end of table.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Lassen County	Plumas County	Total	
				Area	Extent
		Acres	Acres	Acres	Pct
245	Horsecamp-Mahala, association, 0 to 9 percent slopes-----	700	---	700	*
246	Humboldt silty clay, 0 to 2 percent slopes---	1,960	---	1,960	*
247	Humboldt silty clay, 0 to 1 percent slopes, occasionally flooded-----	5,220	---	5,220	0.3
248	Humboldt silty clay, 0 to 1 percent slopes, ponded-----	2,380	---	2,380	0.1
249	Humboldt silty clay loam, saline, 0 to 2 percent slopes, occasionally flooded-----	2,520	---	2,520	0.1
250	Hunnton-Shinnpeak association, 2 to 9 percent slopes-----	4,920	---	4,920	0.3
251	Incy fine sand, 0 to 5 percent slopes-----	600	---	600	*
252	Incy fine sand, 5 to 30 percent slopes-----	8,870	---	8,870	0.5
253	Indiano-Graufels association, 15 to 30 percent slopes-----	1,270	---	1,270	*
254	Indiano-Searles association, 5 to 30 percent slopes-----	4,040	---	4,040	0.2
255	Indiano-Searles association, 30 to 50 percent slopes-----	2,125	---	2,125	0.1
256	Indiano-Zephan-Duco association, 30 to 50 percent slopes-----	500	---	500	*
257	Inville very gravelly sandy loam, 0 to 5 percent slopes-----	---	4,160	4,160	0.2
258	Jauriga gravelly loam, 2 to 9 percent slopes-	200	---	200	*
259	Jauriga-Buckbay-Fredonyer association, 5 to 30 percent slopes-----	11,685	---	11,685	0.6
260	Keddle loam, 0 to 2 percent slopes-----	5,550	---	5,550	0.3
261	Keddle clay loam, 0 to 1 percent slopes-----	430	---	430	*
262	Ladd sandy loam, 0 to 2 percent slopes-----	2,890	---	2,890	0.1
263	Ladd-Bieber complex, 0 to 2 percent slopes---	660	---	660	*
264	Lakeview loam, 0 to 2 percent slopes-----	4,030	---	4,030	0.2
265	Lakeview loam, warm, 0 to 2 percent slopes---	2,530	---	2,530	0.1
266	Lasco gravelly sandy loam, 2 to 15 percent slopes-----	1,260	---	1,260	*
267	Lasco gravelly sandy loam, 30 to 50 percent slopes-----	2,405	---	2,405	0.1
268	Lasco gravelly loam, 15 to 30 percent slopes-	2,360	---	2,360	0.1
269	Lasco-Bonta complex, 15 to 30 percent slopes-	100	---	100	*
270	Lieberman fine sandy loam, 0 to 2 percent slopes-----	3,090	---	3,090	0.2
271	Lieberman-Herlong complex, 0 to 2 percent slopes-----	1,830	---	1,830	*
272	Lodico very cobbly silt loam, 2 to 9 percent slopes-----	1,720	---	1,720	*
273	Longcreek-Devada-Rubble land complex, 9 to 30 percent slopes-----	35,420	---	35,420	1.8
274	Longcreek-Devada-Rubble land complex, 30 to 50 percent slopes-----	7,085	---	7,085	0.4
275	Loomis very cobbly loam, 5 to 30 percent slopes-----	2,990	---	2,990	0.2
276	Loomis-Fivesprings association, 5 to 30 percent slopes-----	12,685	---	12,685	0.6
277	Loomis-Rubble land association, 5 to 30 percent slopes-----	630	---	630	*
278	Madeline-Glean-Devada association, 9 to 50 percent slopes-----	2,770	---	2,770	0.1
279	Madeline-Sumine association, 9 to 30 percent slopes-----	15,900	---	15,900	0.8
280	Massack loam, 0 to 2 percent slopes-----	1,980	---	1,980	0.1
281	Mazuma loamy sand, 0 to 2 percent slopes-----	860	---	860	*
282	Mazuma fine sandy loam, 0 to 2 percent slopes	4,360	---	4,360	0.2

See footnote at end of table.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Lassen County	Plumas County	Total	
				Area	Extent
		Acres	Acres	Acres	Pct
283	McConnel-Mottsville complex, 2 to 9 percent slopes-----	2,360	---	2,360	0.1
284	Mcdermott silt loam, 0 to 5 percent slopes---	2,710	---	2,710	0.1
285	Modoc-Truax complex, 0 to 2 percent slopes---	4,560	---	4,560	0.2
286	Mottsville loamy coarse sand, 0 to 2 percent slopes-----	3,270	---	3,270	0.2
287	Mottsville loamy coarse sand, 2 to 9 percent slopes-----	3,520	---	3,520	0.2
288	Mottsville gravelly loamy coarse sand, 0 to 2 percent slopes-----	6,925	---	6,925	0.4
289	Mottsville gravelly loamy coarse sand, 2 to 9 percent slopes-----	15,960	---	15,960	0.8
290	Mottsville gravelly loamy coarse sand, 9 to 15 percent slopes-----	2,030	---	2,030	0.1
291	Mottsville gravelly loamy coarse sand, 15 to 30 percent slopes-----	485	---	485	*
292	Mottsville-Galeppi association, 15 to 50 percent slopes-----	335	---	335	*
293	Mountmed peat, 0 to 1 percent slopes-----	3,020	---	3,020	0.2
294	Mountmed loam, 0 to 2 percent slopes-----	2,570	---	2,570	0.1
295	Mountmed clay loam, 0 to 3 percent slopes-----	1,700	---	1,700	*
296	Newlands-Hapgood association 5 to 30 percent slopes-----	8,300	---	8,300	0.4
297	Ninemile-Home Camp-Newlands association 2 to 30 percent slopes-----	12,770	---	12,770	0.7
298	Ninemile-Petescreek-Fiddler association 2 to 30 percent slopes-----	7,710	---	7,710	0.4
299	Ninemile-Weste complex, 0 to 9 percent slopes	550	---	550	*
300	Observation-Searles-Madeline association, 9 to 30 percent slopes-----	17,480	---	17,480	0.9
301	Observation-Searles-Madeline association, 30 to 50 percent slopes-----	8,050	---	8,050	0.4
302	Orhood very stony sandy loam, 5 to 15 percent slopes-----	3,040	---	3,040	0.2
303	Orr sandy loam, 0 to 2 percent slopes-----	990	---	990	*
304	Outland very stony loam, 30 to 50 percent slopes-----	2,190	---	2,190	0.1
305	Outland complex, 5 to 30 percent slopes-----	9,130	---	9,130	0.5
306	Outland-Penstock complex, 15 to 30 percent slopes-----	1,340	---	1,340	*
307	Outland-Penstock complex, 30 to 50 percent slopes-----	3,650	---	3,650	0.2
308	Papeek clay loam, 9 to 30 percent slopes-----	970	---	970	*
309	Papeek cobbly clay loam, 30 to 50 percent slopes-----	430	---	430	*
310	Penstock-Deadwood association, 9 to 30 percent slopes-----	4,020	---	4,020	0.2
311	Penstock-Deadwood-Rock outcrop association, 15 to 50 percent slopes-----	5,870	---	5,870	0.3
312	Penstock-Scaribou complex, 5 to 30 percent slopes-----	3,580	---	3,580	0.2
313	Penstock-Scaribou complex, 30 to 50 percent slopes-----	8,900	---	8,900	0.5
314	Pequop-Observation association, 15 to 30 percent slopes-----	1,130	---	1,130	*
315	Pequop-Observation association, 30 to 50 percent slopes-----	1,080	---	1,080	*
316	Petescreek-Bucklake-Devada association, 15 to 50 percent slopes-----	14,410	---	14,410	0.7
317	Petescreek-Devada-Searles association, 15 to 50 percent slopes-----	5,600	---	5,600	0.3

See footnote at end of table.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Lassen County	Plumas County	Total	
				Area	Extent
		Acres	Acres	Acres	Pct
318	Petescreek-Devada-Searles association, 9 to 30 percent slopes-----	11,140	---	11,140	0.6
319	Petescreek-Fredonyer association 2 to 30 percent slopes-----	65,565	---	65,565	3.3
320	Petescreek-Fredonyer association, 30 to 50 percent slopes-----	6,640	---	6,640	0.3
321	Petescreek-Orhood-Fredonyer association, 9 to 30 percent slopes-----	18,360	---	18,360	0.9
322	Petescreek-Searles association, 9 to 30 percent slopes-----	53,960	---	53,960	2.8
323	Petescreek-Searles-Orhood association, 9 to 30 percent slopes-----	10,360	---	10,360	0.5
324	Pit clay, 0 to 2 percent slopes-----	5,130	---	5,130	0.3
325	Pits and Dumps-----	820	---	820	*
326	Playas-----	500	---	500	*
327	Plinco gravelly sandy loam, 0 to 2 percent slopes-----	2,810	---	2,810	0.1
328	Plinco loam, 2 to 9 percent slopes-----	3,700	---	3,700	0.2
329	Pula very cobbly loam, 2 to 9 percent slopes-----	7,500	---	7,500	0.4
330	Pula-Ninekar complex, 2 to 9 percent slopes--	5,210	---	5,210	0.3
331	Pula-Tunnison complex, 2 to 9 percent slopes--	2,300	---	2,300	0.1
332	Quartzburg-Scaribou complex, 50 to 75 percent slopes-----	2,790	---	2,790	0.1
333	Ravendale silty clay, 0 to 2 percent slopes--	4,500	---	4,500	0.2
334	Ravendale silty clay, 0 to 2 percent slopes, occasionally flooded-----	71,400	---	71,400	3.6
335	Ravendale silty clay, 0 to 2 percent slopes, ponded-----	12,665	---	12,665	0.6
336	Ravendale silty clay, saline, 0 to 1 percent slopes-----	1,500	---	1,500	*
337	Redriver-Gerle complex, 2 to 9 percent slopes	775	---	775	*
338	Redriver-Weste complex, 2 to 9 percent slopes	---	15,195	15,195	0.8
339	Redriver-Woodwest-Wafla complex, 0 to 9 percent slopes-----	13,600	---	13,600	0.7
340	Rices clay loam, 0 to 2 percent slopes-----	2,480	---	2,480	0.1
341	Rose Creek loam, 0 to 1 percent slopes-----	340	---	340	*
342	Rose Creek loam, sodic, 0 to 2 percent slopes	580	---	580	*
343	Rubble land-Fiddler association, 15 to 50 percent slopes-----	15,880	---	15,880	0.8
344	Rubble land-Longcreek-Fivesprings association, 30 to 60 percent slopes-----	9,770	---	9,770	0.5
345	Rubble land-rock outcrop complex, 30 to 70 percent slopes-----	1,920	---	1,920	*
346	Rubble land-Weste complex, 5 to 50 percent slopes-----	5,030	---	5,030	0.3
347	Saddlerock peat, 0 to 1 percent slopes, ponded-----	700	---	700	*
348	Saddlerock silty clay, 0 to 2 percent slopes--	6,640	---	6,640	0.3
349	Saddlerock silty clay, drained, 0 to 2 percent slopes-----	2,520	---	2,520	0.1
350	Saddlerock-Yobe-Termo complex, 0 to 2 percent slopes-----	3,210	---	3,210	0.2
351	Said gravelly loam, 5 to 30 percent slopes---	2,120	---	2,120	0.1
352	Said-Fraval complex, 30 to 50 percent slopes--	3,050	---	3,050	0.2
353	Said-Ninemile association, 2 to 30 percent slopes-----	23,345	---	23,345	1.2
354	Scaribou very gravelly sandy loam, 5 to 30 percent slopes-----	2,280	---	2,280	0.1
355	Scaribou-Penstock-Rock outcrop complex, 50 to 75 percent slopes-----	610	---	610	*
356	Searles-Devada-Fivesprings association, 2 to 30 percent slopes-----	25,250	---	25,250	1.3

See footnote at end of table.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Lassen County	Plumas County	Total	
				Area	Extent
		Acres	Acres	Acres	Pct
357	Searles-Devada-Rubble land association, 30 to 50 percent slopes-----	9,540	---	9,540	0.5
358	Searles-Glean association, 5 to 30 percent slopes-----	21,050	---	21,050	1.1
359	Searles-Glean association, 30 to 50 percent slopes-----	22,260	---	22,260	1.1
360	Searles-Orhood-Devada association, 5 to 30 percent slopes-----	19,100	---	19,100	1.0
361	Shinnpeak very cobbly loam, 2 to 15 percent slopes-----	2,075	---	2,075	0.1
362	Smocreek silt loam, sodic, 0 to 2 percent slopes-----	1,775	---	1,775	*
363	Smocreek silty clay loam, 0 to 2 percent slopes-----	8,750	---	8,750	0.4
364	Southpac very stony loam, 30 to 50 percent slopes-----	3,560	---	3,560	0.2
365	Springmeyer sandy loam, 0 to 5 percent slopes-----	4,560	---	4,560	0.2
366	Springmeyer sandy clay loam, 0 to 2 percent slopes-----	875	---	875	*
367	Stacy fine sandy loam, 0 to 2 percent slopes-----	555	---	555	*
368	Standish fine sandy loam, 0 to 2 percent slopes-----	1,640	---	1,640	*
369	Stiles clay loam, 0 to 5 percent slopes-----	5,100	---	5,100	0.3
370	Sumine-Softscrabble-Hutchley association, 15 to 50 percent slopes-----	3,400	---	3,400	0.2
371	Susanville silt loam, 0 to 2 percent slopes-----	1,260	---	1,260	*
372	Susanville-Smocreek complex, 0 to 2 percent slopes-----	580	---	580	*
373	Swainow-Almanor-Tahand complex, altered, 2 to 30 percent slopes-----	---	300	300	*
374	Swainow-Almanor complex, 15 to 30 percent slopes-----	6,445	---	6,445	0.3
375	Swainow-Redriver complex, 2 to 9 percent slopes-----	---	1,835	1,835	*
376	Swainow-Tahand complex, 30 to 50 percent slopes-----	---	100	100	*
377	Tahand-Baileycreek complex, 5 to 30 percent slopes-----	3,850	---	3,850	0.2
378	Tahand-Swainow-Almanor complex, 2 to 15 percent slopes-----	3,570	---	3,570	0.2
379	Termo-Biscaro complex, 0 to 2 percent slopes-----	5,000	---	5,000	0.3
380	Termo-Playas complex, 0 to 1 percent slopes-----	14,360	---	14,360	0.7
381	Termo-Springmeyer-Smocreek complex, 0 to 2 percent slopes-----	2,575	---	2,575	0.1
382	Toiyabe-Lasco-Quartzburg complex, 30 to 50 percent slopes-----	7,275	---	7,275	0.4
383	Toiyabe-Lasco complex, 2 to 30 percent slopes-----	3,225	---	3,225	0.2
384	Torriorhents-Zorravista complex, 0 to 2 percent slopes-----	2,150	---	2,150	0.1
385	Truax sandy loam, 0 to 5 percent slopes-----	14,800	---	14,800	0.8
386	Truckee loam, 0 to 2 percent slopes-----	2,550	---	2,550	0.1
387	Truckee-Humboldt complex, 0 to 2 percent slopes-----	3,000	---	3,000	0.2
388	Tunnison very cobbly clay, 2 to 9 percent slopes-----	8,910	---	8,910	0.5
389	Tunnison-Devada association, 2 to 15 percent slopes-----	1,590	---	1,590	*
390	Tunnison-Devada association, 2 to 9 percent slopes-----	16,520	---	16,520	0.8
391	Ulhalf gravelly loam, 30 to 50 percent slopes-----	1,500	---	1,500	*
392	Ulhalf very gravelly loam, 2 to 15 percent slopes-----	800	---	800	*

See footnote at end of table.

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Lassen County	Plumas County	Total	
				Area	Extent
		Acres	Acres	Acres	Pct
393	Ulhalf-Gavel complex, 2 to 15 percent slopes-	5,300	---	5,300	0.3
394	Ulhalf-Southpac complex, 2 to 30 percent slopes-----	4,830	---	4,830	0.2
395	Verdico-Chalco association, 2 to 30 percent slopes-----	1,550	---	1,550	*
396	Wespac sand, 0 to 2 percent slopes-----	1,200	---	1,200	*
397	Wespac-Playas complex, 0 to 2 percent slopes-	1,535	---	1,535	*
398	Westa-Baileycreek-Tahand complex, 5 to 30 percent slopes-----	770	---	770	*
399	Westa-Rock outcrop complex, 30 to 50 percent slopes-----	500	---	500	*
400	Whitinger-Devada association, 5 to 30 percent slopes-----	4,890	---	4,890	0.2
401	Whorled-Almanor complex, 15 to 30 percent slopes-----	---	700	700	*
402	Wylo-Bucklake association, 9 to 50 percent slopes-----	2,480	---	2,480	0.1
403	Wylo-Diaz-Brubeck association, 2 to 30 percent slopes-----	4,000	---	4,000	0.2
404	Wylo-Pickup-Bucklake association, 9 to 50 percent slopes-----	1,680	---	1,680	*
405	Xerolls-aquolls complex, 0 to 2 percent slopes-----	4,975	---	4,975	0.3
406	Yobe silt loam, 0 to 2 percent slopes-----	6,225	---	6,225	0.3
407	Zorravista loamy sand, 0 to 5 percent slopes-	4,875	---	4,875	0.2
408	Zorravista sand, 2 to 15 percent slopes-----	5,200	---	5,200	0.3
409	Water-----	110,000	30,000	140,000	7.1
	Total-----	1,895,199	66,595	1,961,794	100.0

* Less than 0.1 percent.

TABLE 5.--LAND CAPABILITY AND IRRIGATED YIELDS PER ACRE OF CROPS AND PASTURE
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

(Yields are those that can be expected under a high level of irrigated management by component. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Map symbol and soil name	Land Capability Irrigated	Alfalfa hay Tons
104: Ardep-----	3s	6.5
105: Ardep-----	3w	7.0
108: Ardep-----	---	6.5
Wespac-----	---	---
Zorravista----	---	---
109: Artray-----	4w	---
115: Beckwourth-----	4w	---
Fordney-----	4e	3.5
116: Bieber-----	4e	---
117: Biscaro-----	4s	---
118: Biscaro-----	4s	---
Calnat-----	4s	---
120: Blickenstaff----	2e	7.0
121: Honeylake-----	4w	---
122: Bobert-----	4s	---
123: Bobert-----	4s	---
142: Calpine-----	3e	7.0
143: Calpine-----	2e	7.0
144: Calpine-----	2e	7.0
145: Calpine-----	4e	7.0

TABLE 5.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Land Capability Irrigated	Alfalfa hay
		Tons
147:		
Capona-----	---	5.0
Rock outcrop----	---	---
148:		
Cewat-----	---	3.5
149:		
Cewat-----	---	3.5
McConnel-----	---	---
Toulon-----	---	---
158:		
Cleghorn-----	4e	---
159:		
Cleghorn-----	3e	---
182:		
Dryvalley-----	4s	---
204:		
Fordney-----	4e	4.0
205:		
Fordney-----	3e	7.0
206:		
Fordney-----	3e	7.0
209:		
Fortsage-----	2e	7.0
215:		
Galeppi-----	2e	6.5
216:		
Galeppi-----	3e	6.5
217:		
Galeppi-----	4e	---
Glenbrook-----	4e	---
220:		
Gerlach-----	3e	---
222:		
Gerlach-----	4w	---
Ravendale-----	4w	---
236:		
Herjun-----	3s	---
237:		
Herjun-----	2s	---
238:		
Highrock-----	3e	---
Mazuma-----	2s	---
Wespac-----	3s	---

TABLE 5.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Land Capability Irrigated	Alfalfa hay Tons
239: Highrock-----	3e	---
Wespac-----	3s	---
Zorravista-----	3s	---
246: Humboldt-----	3w	---
247: Humboldt-----	3w	---
248: Humboldt-----	5w	---
249: Humboldt-----	3w	---
251: Incy-----	4s	4.0
252: Incy-----	4s	---
260: Keddie-----	4w	---
261: Keddie-----	3w	---
262: Ladd-----	3c	6.5
263: Ladd-----	3c	5.0
Bieber-----	4s	4.5
264: Lakeview-----	4c	---
265: Lakeview-----	2w	6.5
280: Massack-----	3w	---
281: Mazuma-----	2s	---
282: Mazuma-----	2s	---
283: McConnel-----	3e	4.8
Mottsville-----	3e	---
285: Modoc-----	3e	5.0
Truax-----	3e	7.0
286: Mottsville-----	3e	---

TABLE 5.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Land Capability Irrigated	Alfalfa hay
		Tons
287: Mottsville-----	3e	---
288: Mottsville-----	3e	---
289: Mottsville-----	3e	---
290: Mottsville-----	4e	---
291: Mottsville-----	4e	---
295: Mountmed-----	4w	---
303: Orr-----	2e	6.5
324: Pit-----	4w	3.5
327: Plinco-----	2w	7.0
328: Plinco-----	3e	7.0
333: Ravendale-----	4s	3.5
334: Ravendale-----	4w	3.5
335: Ravendale-----	---	3.5
336: Ravendale-----	---	3.5
340: Rices-----	3w	---
341: Rose Creek-----	3w	---
342: Rose Creek-----	3w	---
347: Saddlerock-----	4w	---
348: Saddlerock-----	4w	---
349: Saddlerock-----	4w	---
362: Smocreek-----	4s	---
363: Smocreek-----	3w	6.5

TABLE 5.--LAND CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Land Capability Irrigated	Alfalfa hay
		Tons
365: Springmeyer-----	2e	6.5
366: Springmeyer-----	2c	6.5
367: Stacy-----	2e	---
368: Standish-----	4s	---
371: Susanville-----	4s	---
372: Susanville-----	4s	---
Smocreek-----	4s	---
Smocreek-----	4s	---
385: Truax-----	4e	5.0
386: Truckee-----	2w	---
387: Truckee-----	4w	---
Humboldt-----	4w	---
396: Wespac-----	4s	---
397: Wespac-----	3s	---
Playas-----	---	---

TABLE 6.--LAND CAPABILITY CLASSIFICATION

Land capability is a system of grouping soils primarily on the basis of their capability to produce common cultivated crops and pasture plants without deteriorating over a long period of time.

LCC placement in California is based on state criteria developed in 1978, revised in 1992.

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
101:		
Almanor-----	6s	---
Whorled-----	6s	---
Inville-----	6s	---
102:		
Alomax, very stony sandy loam-----	7e	---
Glean-----	6e	---
Rock Outcrop-----	8	---
103:		
Anawalt-----	7s	---
Ninemile-----	7s	---
104:		
Ardep-----	6s	3s-6
105:		
Ardep-----	4w-2	3w-2
106:		
Ardep-----	7s	---
107:		
Ardep-----	7e	---
108:		
Ardep-----	7s	---
Wespac-----	7s	---
Zorravista-----	7s	---
109:		
Artray-----	4w-2	4w-2
110:		
Badenaugh-----	7s	---
111:		
Baileycreek-----	6e	---
Weste-----	6e	---
112:		
Baileycreek-----	6e	---
Weste-----	6e	---
113:		
Baileycreek-----	6e	---
Weste-----	6e	---
114:		
Barnard-----	6s	---

TABLE 6.--Land Capability Classification--Continued

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
115: Beckwourth-----	4w-1	4w-1
Fordney-----	4e-1	4e-1
116: Bieber-----	6s	4e-8
117: Biscaro-----	4s-3	4s-3
118: Biscaro-----	4s-3	4s-3
Calnat-----	4s-3	4s-3
119: Biscaro-----	4s-3	---
Playas, silty clay-----	8	---
120: Blickenstaff-----	6e	2e-1
121: Honeylake-----	7w	4w-6
122: Robert-----	7s	4s-6
123: Robert-----	7s	4s-6
124: Bonta-----	6e	---
125: Bonta-----	6e	---
126: Bonta-----	6e	---
127: Boulder Lake-----	5w	---
128: Boulder Lake-----	6w	---
129: Brubeck-----	7s	---
130: Brubeck-----	7s	---
131: Brubeck-----	7s	---
Diaz-----	7s	---
132: Brubeck-----	6s	---
Loomis-----	7s	---
133: Buckbay-----	6e	---

TABLE 6.--Land Capability Classification--Continued

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
Orhood-----	7s	---
Devada-----	7s	---
134: Buckbay-----	6e	---
Orhood-----	7s	---
Fredonyer-----	7s	---
135: Bucklake-----	7e	---
Corral-----	7e	---
Rubble Land-----	8	---
136: Bunanch-----	6e	---
137: Cagwin-----	6e	---
138: Cagwin-----	6e	---
139: Calnat-----	7s	---
140: Calneva-----	7s	---
141: Calneva-----	7s	---
Playas, silty clay-----	8	---
142: Calpine-----	4e-1	3e-1
143: Calpine-----	4e-1	2e-1
144: Calpine-----	4e-1	2e-1
145: Calpine-----	4e-1	4e-1
146: Indiano-----	6s	---
Chalco-----	6s	---
147: Capona-----	6e	---
Rock Outcrop-----	8	---
148: Cewat-----	7s	---
149: Cewat-----	7s	---

TABLE 6.--Land Capability Classification--Continued

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
Mcconnel-----	7s	---
Toulon-----	7s	---
150: Chappuis-----	7s	---
151: Chappuis-----	7s	---
152: Chimney-----	6s	---
153: Chimney-----	6s	---
154: Chimney-----	6e	---
Janile, very bouldery-----	7e	---
Waterman, very bouldery-----	7e	---
155: Chimney-----	7e	---
Janile, very bouldery-----	7e	---
Waterman, very bouldery-----	7e	---
156: Chimney-----	6e	---
Waterman, very bouldery-----	7e	---
157: Chirpchatter-----	3e-4	---
158: Cleghorn-----	4e-1	4e-1
159: Cleghorn-----	6e	3e-1
160: Cochran-----	6s	---
161: Cochran-----	7s	---
162: Corral-----	4s-1	---
163: Corral-----	6s	---
164: Corral-----	7e	---
165: Corral-----	7e	---
166: Corral-----	7e	---

TABLE 6.--Land Capability Classification--Continued

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
167:		
Corral-----	4s-1	---
Chalco-----	6s	---
168:		
Corral-----	7e	---
Glenbrook-----	7e	---
169:		
Devada-----	7s	---
Brubeck-----	7s	---
170:		
Devada-----	7s	---
Bucklake-----	7s	---
171:		
Devada-----	7e	---
Fivesprings-----	7e	---
Rubble Land-----	8	---
172:		
Devada-----	7s	---
Gavel-----	7s	---
173:		
Devada-----	7s	---
Gavel-----	6s	---
Whitinger-----	6s	---
174:		
Devada-----	7e	---
Glean-----	6e	---
Sumine-----	7e	---
175:		
Devada-----	7s	---
Longcreek-----	7s	---
176:		
Devada-----	7s	---
Orhood-----	7s	---
Hart Camp-----	7s	---
177:		
Devada-----	6e	---
Papeek-----	6e	---
Gavel-----	6e	---

TABLE 6.--Land Capability Classification--Continued

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
178:		
Devada-----	7s	---
Petescreek-----	6e	---
Fiddler-----	7s	---
179:		
Devada-----	7e	---
Rock Outcrop-----	8	---
180:		
Dotta-----	4e-4	---
181:		
Dotta-----	4w-4	---
182:		
Dryvalley-----	4s-3	4s-3
183:		
Dryvalley-----	4w-6	---
Playas, silty clay-----	8	---
184:		
Eaglelake-----	3s-4	---
185:		
Eaglelake-----	6e	---
Outland-----	6e	---
Weste-----	6e	---
186:		
Eaglelake-----	6e	---
Outland-----	6e	---
Weste-----	6e	---
187:		
Eaglelake-----	6e	---
Outland-----	6e	---
Weste-----	6e	---
188:		
Eaglelake-----	6e	---
Outland-----	6e	---
Weste-----	6e	---
189:		
Easte-----	7e	---
Fredonyer-----	7s	---
190:		
Easte-----	6e	---
Roop-----	6e	---

TABLE 6.--Land Capability Classification--Continued

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
191:		
Easte-----	6e	---
Roop-----	6e	---
192:		
Epot-----	7e	---
Playas, silty clay-----	8	---
193:		
Epot-----	7s	---
Ragtown-----	7s	---
Playas, silty clay-----	8	---
194:		
Fiddler-----	7s	---
Gavel-----	7s	---
Rubble Land-----	8	---
195:		
Fiddler-----	7e	---
Gavel-----	7e	---
Rubble Land-----	8	---
196:		
Fiddler-----	7s	---
Madeline-----	7s	---
197:		
Fiddler-----	7s	---
Orhood-----	7s	---
Petescreek-----	6s	---
198:		
Fivesprings-----	7s	---
Longcreek-----	7s	---
199:		
Fivesprings-----	7e	---
Longcreek-----	7e	---
200:		
Fivesprings-----	7e	---
Longcreek-----	7s	---
Rubble Land-----	8	---
201:		
Fivesprings-----	7s	---
Rubble Land-----	8	---
Devada-----	7s	---

TABLE 6.--Land Capability Classification--Continued

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
202:		
Fivesprings-----	7s	---
Sumine-----	7e	---
203:		
Fluvents-----	8	---
Riverwash-----	8	---
204:		
Fordney-----	6e	4e-1
205:		
Fordney-----	6e	3e-1
206:		
Fordney-----	6e-4	3e-2
207:		
Forgay-----	6s	---
208:		
Forgay-----	6s	---
209:		
Fortsage-----	6e	2e-1
210:		
Fortsage-----	6w	---
211:		
Fraval-----	7s	---
Fredonyer-----	7s	---
Said-----	6e	---
212:		
Fraval-----	7s	---
Said-----	6e	---
213:		
Fredonyer-----	7e	---
Whitinger-----	7e	---
Orhood-----	7e	---
214:		
Fulstone-----	7s	---
Wylo-----	7s	---
215:		
Galeppi-----	6e	2e-1
216:		
Galeppi-----	6e	3e-1
217:		
Galeppi-----	6s	4e-1
Glenbrook-----	6s	4e-1

TABLE 6.--Land Capability Classification--Continued

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
218: Gavel, stony loam-----	6s	---
219: Gavel, very stony sandy loam-----	7e	---
Devada-----	7e	---
220: Gerlach-----	6e	3e-3
221: Gerlach-----	6e	---
222: Gerlach-----	6w	4w-2
Ravendale-----	6w	4w-2
223: Gerle-----	4e-4	---
224: Gerle-----	6e	---
225: Gerle-----	7e	---
Gerle-----	7e	---
Gerle-----	7e	---
226: Glean-----	6e	---
227: Glean-----	6e	---
228: Glean-----	7e	---
Searles-----	7e	---
229: Glenbrook-----	7e	---
Graufels-----	7e	---
Rock Outcrop-----	8	---
230: Graufels-----	7e	---
Glenbrook-----	7e	---
231: Hagata-----	6s	---
Playas-----	8	---
232: Hangtown-----	6e	---
233: Hart Camp-----	7s	---

TABLE 6.--Land Capability Classification--Continued

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
Devada-----	7s	---
Tunnison-----	7s	---
234: Hart Camp-----	6e	---
Madeline-----	7s	---
235: Haypress-----	7e	---
Tanob-----	6e	---
236: Herjun-----	7s	3s-4
237: Herjun-----	7s	2s-6
238: Highrock, loamy fine sand-----	7s	3e-4
Mazuma-----	7s	2s-5
Wespac-----	7s	3s-6
239: Highrock, loamy fine sand-----	7s	3e-4
Wespac, fine sandy loam-----	7s	3s-6
Zorravista, loamy sand-----	7s	3s-4
240: Home Camp-----	6e	---
Newlands-----	6e	---
241: Honlak-----	7w	---
242: Horsecamp-----	6s	---
243: Horsecamp-----	7s	---
Brubeck-----	7s	---
244: Horsecamp-----	7s	---
Hunnnton-----	7s	---
245: Horsecamp, cobbly clay-----	6e	---
Mahala-----	7s	---
246: Humboldt-----	6w	3w-2
247: Humboldt-----	6w	3w-2

TABLE 6.--Land Capability Classification--Continued

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
248: Humboldt-----	5w	5w
249: Humboldt-----	6w	3w-2
250: Hunnton-----	6e	---
Shinnpeak-----	7s	---
251: Incy-----	7s	4s-4
252: Incy-----	7s	4s-4
253: Indiano-----	6e	---
Graufels-----	7e	---
254: Indiano-----	7s	---
Searles-----	7s	---
255: Indiano-----	7e	---
Searles-----	7e	---
256: Indiano-----	7s	---
Zephan-----	7s	---
Duco, stony loam-----	7s	---
257: Inville-----	6s	---
258: Jauriga-----	4e-4	---
259: Jauriga-----	6e	---
Buckbay-----	6e	---
Fredonyer-----	7s	---
260: Keddie-----	4w-2	4w-2
261: Keddie-----	5w	3w-2
262: Ladd-----	4c-2	3c-2
263: Ladd-----	3c-2	3c-2
Bieber-----	6s	4s-8

TABLE 6.--Land Capability Classification--Continued

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
264: Lakeview-----	4c-2	4c-2
265: Lakeview-----	4w-2	2w-2
266: Lasco-----	4e-4	---
267: Lasco-----	6e	---
268: Lasco-----	4e-4	---
269: Lasco-----	4e-4	---
Bonta-----	4e-4	---
270: Lieberman-----	7s	---
271: Lieberman-----	7s	---
Herlong-----	7s	---
272: Lodico-----	7s	---
273: Longcreek-----	7s	---
Devada-----	7s	---
Rubble Land-----	8	---
274: Longcreek-----	7e	---
Devada-----	7e	---
Rubble Land-----	8	---
275: Loomis-----	7s	---
276: Loomis-----	7s	---
Fivesprings-----	7s	---
277: Loomis-----	7s	---
Rubble Land-----	8	---
278: Madeline-----	7s	---
Glean-----	7e	---
Devada-----	7s	---

TABLE 6.--Land Capability Classification--Continued

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
279: Madeline-----	7a	---
Sumine-----	6e	---
280: Massack-----	4w-2	3w-2
281: Mazuma-----	6s	2s-6
282: Mazuma-----	7s	2s-6
283: Mcconnel-----	6e	3e-1
Mottsville-----	6e	3e-1
284: Mcdermott-----	7e	---
285: Modoc-----	6e	3e-8
Truax-----	6e	3e-8
286: Mottsville-----	4e-4	3e-4
287: Mottsville-----	4e-4	3e-1
288: Mottsville-----	6e	3e-4
289: Mottsville-----	6e	3e-1
290: Mottsville-----	6e	4e-1
291: Mottsville-----	6e	4e-1
292: Mottsville-----	6e	---
Galeppi-----	6e	---
293: Mountmed-----	5w	---
294: Mountmed-----	5w	---
295: Mountmed-----	4w-1	4w-1
296: Newlands-----	6e	---
Hapgood-----	6e	---
297: Ninemile-----	7s	---

TABLE 6.--Land Capability Classification--Continued

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
Home Camp-----	6e	---
Newlands-----	6e	---
298: Ninemile-----	7s	---
Petescreek-----	6e	---
Fiddler-----	7s	---
299: Ninemile-----	7s	---
Waste-----	7s	---
300: Observation-----	7s	---
Searles-----	7s	---
Madeline-----	7s	---
301: Observation-----	7e	---
Searles-----	7e	---
Madeline-----	7e	---
302: Orhood-----	7s	---
303: Orr-----	6e	2e-1
304: Outland-----	6e	---
305: Outland-----	6e	---
Outland-----	6e	---
306: Outland-----	6e	---
Penstock-----	6e	---
307: Outland-----	7e	---
Penstock-----	7e	---
308: Papeek-----	6e	---
309: Papeek-----	6e	---
310: Penstock-----	6e	---
Deadwood-----	6e	---

TABLE 6.--Land Capability Classification--Continued

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
311:		
Penstock-----	6e	---
Deadwood-----	6e	---
Rock Outcrop-----	8	---
312:		
Penstock, stony loam-----	6e	---
Scaribou, stony loam-----	6e	---
313:		
Penstock, stony loam-----	6e	---
Scaribou, stony loam-----	6e	---
314:		
Pequop, very cobbly loam-----	7s	---
Observation-----	7s	---
315:		
Pequop-----	7e	---
Observation-----	7e	---
316:		
Petescreek-----	6e	---
Bucklake-----	7e	---
Devada-----	7s	---
317:		
Petescreek-----	6e	---
Devada-----	7s	---
Searles-----	7e	---
318:		
Petescreek-----	6e	---
Devada-----	7s	---
Searles-----	7s	---
319:		
Petescreek-----	6e	---
Fredonyer-----	7s	---
320:		
Petescreek-----	6e	---
Fredonyer-----	7e	---
321:		
Petescreek-----	6e	---
Orhood-----	7s	---
Fredonyer-----	7s	---

TABLE 6.--Land Capability Classification--Continued

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
322: Petescreek-----	6e	---
Searles-----	7s	---
323: Petescreek-----	6e	---
Searles-----	7s	---
Orhood-----	7s	---
324: Pit-----	4w-2	4w-2
325: Pits-----	8	---
Dumps-----	8	---
326: Playas, silty clay-----	8	---
327: Plinco, gravelly sandy loam-----	4c-2	2w-2
328: Plinco-----	4e-1	3e-1
329: Puls-----	7s	---
330: Puls-----	7s	---
Ninekar-----	7s	---
331: Puls-----	7s	---
Tunnison-----	7s	---
332: Quartzburg-----	6e	---
Scaribou-----	6e	---
333: Ravendale-----	4s-2	4s-2
334: Ravendale-----	4w-2	4w-2
335: Ravendale-----	6w	---
336: Ravendale-----	6s	---
337: Redriver-----	4e	---
Gerle-----	4e	---
338: Redriver-----	6e	---

TABLE 6.--Land Capability Classification--Continued

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
Weste-----	6e	---
339: Redriver, stony sandy loam-----	7s	---
Woodwest-----	7s	---
Wafila-----	7s	---
340: Rices-----	6w	3w-6
341: Rose Creek-----	6w	3w-2
342: Rose Creek-----	6w	3w-2
343: Rubble Land-----	8	---
Fiddler-----	7s	---
344: Rubble Land-----	8	---
Longcreek-----	7e	---
Fivesprings-----	7e	---
345: Rubble Land-----	8	---
Rock Outcrop-----	8	---
346: Rubble Land-----	8	---
Weste-----	7e	---
347: Saddlerock-----	5w	4w-2
348: Saddlerock-----	5w	4w-2
349: Saddlerock-----	6w	4w-2
350: Saddlerock-----	6w	---
Yobe-----	6w	---
Termo-----	6w	---
351: Said-----	6e	---
352: Said-----	6e	---
Fraval-----	6e	---
353: Said-----	6e	---

TABLE 6.--Land Capability Classification--Continued

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
Ninemile-----	7s	---
354: Scaribou-----	4e	---
355: Scaribou-----	7e	---
Penstock-----	7e	---
Rock Outcrop-----	8	---
356: Searles-----	6e	---
Devada-----	7s	---
Fivesprings-----	7s	---
357: Searles-----	7e	---
Devada-----	7e	---
Rubble Land-----	8	---
358: Searles-----	7s	---
Glean-----	6e	---
359: Searles-----	7e	---
Glean-----	7e	---
360: Searles-----	7s	---
Orhood-----	7s	---
Devada-----	7s	---
361: Shinnpeak, very cobbly sandy loam-----	7s	---
362: Smocreek-----	6s	4s-6
363: Smocreek, silt loam-----	4w-1	3w-1
364: Southpac-----	6e	---
365: Springmeyer-----	6e	2e-1
366: Springmeyer-----	6c	2c-1
367: Stacy-----	6e	2e-2
368: Standish-----	7s	4s-6

TABLE 6.--Land Capability Classification--Continued

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
369: Stiles-----	7e	---
370: Sumine-----	7e	---
Softscrabble, stony fine sandy loam-----	7e	---
Hutchley-----	7s	---
371: Susanville-----	7s	4s-6
372: Susanville-----	6s	4s-6
Smocreek-----	6s	4s-6
373: Swainow-----	6e	---
Almanor-----	6e	---
Tahand-----	6e	---
374: Swainow, very stony sandy loam-----	6e	---
Almanor-----	6e	---
375: Swainow-----	6s	---
Redriver-----	6s	---
376: Swainow-----	6e	---
Tahand, very stony sandy loam-----	6e	---
377: Tahand, very gravelly loam-----	4s-4	---
Baileycreek-----	4s-4	---
378: Tahand-----	6s	---
Swainow-----	6s	---
Almanor-----	6s	---
379: Termo-----	4s-6	---
Biscaro-----	4s-6	---
380: Termo-----	4s-6	---
Playas-----	8	---
381: Termo-----	6s	---
Springmeyer-----	6s	---

TABLE 6.--Land Capability Classification--Continued

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
Smocreek-----	6s	4s-6
382: Toiyabe-----	6e	---
Lasco-----	6e	---
Quartzburg-----	6e	---
383: Toiyabe-----	6e	---
Lasco-----	6e	---
384: Torriorthents-----	7s	---
Zorravista-----	7s	---
385: Truax-----	4e-1	4e-1
386: Truckee-----	6w	2w-2
387: Truckee-----	6w	4w-2
Humboldt-----	6w	4w-2
388: Tunnison-----	7s	---
389: Tunnison-----	7s	---
Devada-----	7s	---
390: Tunnison-----	7s	---
Devada-----	7s	---
391: Ulhalf-----	4e-4	---
392: Ulhalf-----	4e-4	---
393: Ulhalf-----	6e	---
Gavel, very stony sandy loam-----	6e	---
394: Ulhalf-----	7s	---
Southpac-----	7s	---
395: Verdico-----	6e	---
Chalco-----	6e	---
396: Wespac-----	7s	4s-6

TABLE 6.--Land Capability Classification--Continued

Map symbol and soil name	Land Capability	
	Non-Irrigated	Irrigated
397:		
Wespac-----	7s	3s-6
Playas-----	8	---
398:		
Weste-----	7s	---
Baileycreek-----	7s	---
Tahand, very stony sandy loam-----	7s	---
399:		
Weste-----	6e	---
Rock Outcrop-----	8	---
400:		
Whitinger-----	6s	---
Devada-----	7s	---
401:		
Whorled-----	6e	---
Almanor-----	6e	---
402:		
Wylo-----	7s	---
Bucklake-----	7e	---
403:		
Wylo-----	7s	---
Diaz-----	7s	---
Brubeck-----	7s	---
404:		
Wylo-----	7s	---
Pickup-----	7e	---
Bucklake-----	7e	---
405:		
Xerolls-----	5w	---
Aquolls-----	5w	---
406:		
Yobe-----	7w	---
407:		
Zorravista-----	6s	---
408:		
Zorravista-----	7s	---
409:		
Water-----	---	---

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
101: Almanor-----		FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	piplisewea	5	
		UNFAVORABLE	---	sedge	5	
				serviceberry	5	
				snowberry	5	
				squawcarpet	5	
				swamp carex	5	
				whitethorn ceanothus	5	
Whorled-----		FAVORABLE	---	needlegrass	10	
		NORMAL	---	sedge	10	
		UNFAVORABLE	---	serviceberry	5	
				snowberry	5	
				squawcarpet	10	
				whitethorn ceanothus	15	
				wildrye	10	
Inville-----		FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
102: Alomax-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE	1800	Idaho fescue		25
		NORMAL	1400	antelope bitterbrush		10
		UNFAVORABLE	1000	bluebunch wheatgrass		30
				mountain big sagebrush		5
				needlegrass		25
Glean-----	LOAM 12-16" (R021XE176CA)	FAVORABLE	2000	Idaho fescue		30
		NORMAL	1800	antelope bitterbrush		5
		UNFAVORABLE	1400	bluebunch wheatgrass		30
				mountain big sagebrush		5
				needlegrass		25
Rock outcrop----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
103: Anawalt-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE	1000	Idaho fescue		15
		NORMAL	700	Sandberg bluegrass		10
		UNFAVORABLE	500	Thurber needlegrass		15
				antelope bitterbrush		5
				bluebunch wheatgrass		40
				low sagebrush		10
Ninemile-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE	1000	Idaho fescue		35
		NORMAL	700	Thurber needlegrass		5
		UNFAVORABLE	400	antelope bitterbrush		5
				balsamroot		5
				bluebunch wheatgrass		15
				bluegrass		10
				bottlebrush squirreltail		5
				low sagebrush		20
104: Ardep-----	SANDY TERRACE 6-9" (R023XG054CA)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	800	basin big sagebrush		5
		UNFAVORABLE	600	basin wildrye		10
				fourwing saltbush		5
				littleleaf horsebrush		5
				needleandthread		30
105: Ardep-----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
106: Ardep-----	SODIC FLAT 6-9" (R023XG046CA)	FAVORABLE	700	black greasewood		10
		NORMAL	500	bottlebrush squirreltail		10
		UNFAVORABLE	300	bud sagebrush		10
				shadscale		60
107: Ardep-----	LIMY TERRACE 6-9" (R023XG055CA)	FAVORABLE	800	Indian ricegrass		10
		NORMAL	600	bud sagebrush		5
		UNFAVORABLE	400	winterfat		70

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
108: Ardep-----	SANDY TERRACE 6-9" (R023XG054CA)	FAVORABLE NORMAL UNFAVORABLE	1100 800 600	Indian ricegrass basin big sagebrush basin wildrye fourwing saltbush littleleaf horsebrush needleandthread		30 5 10 5 5 30
Wespac-----	SODIC SHALLOW SAND 6-9" (R023XG052CA)	FAVORABLE NORMAL UNFAVORABLE	900 700 400	Indian ricegrass basin big sagebrush basin wildrye bottlebrush squirreltail needleandthread		15 15 15 15 15
Zorravista-----	SAND DUNES 6-9" (R023XG049CA)	FAVORABLE NORMAL UNFAVORABLE	1100 700 600	Indian ricegrass basin big sagebrush basin wildrye black greasewood fourwing saltbush littleleaf horsebrush needleandthread rubber rabbitbrush spiny hopsage		35 10 10 5 10 5 10 5
109: Artray-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
110: Badenaugh-----	GRANITIC UPLAND 9-12" (R026XF052CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Anderson peachbrush antelope bitterbrush big sagebrush bluebunch wheatgrass green ephedra needlegrass		10 15 5 10 5 50
111: Baileycreek-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	manzanita mountain brome needlegrass snowbrush ceanothus whitethorn ceanothus	5 5 5 5 5	
Weste-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	greenleaf manzanita squawcarpet whitethorn ceanothus	5 5 5	
112: Baileycreek-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	manzanita mountain brome needlegrass snowbrush ceanothus whitethorn ceanothus	5 5 5 5 5	
Weste-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	greenleaf manzanita squawcarpet whitethorn ceanothus	5 5 5	
113: Baileycreek-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	manzanita mountain brome needlegrass snowbrush ceanothus whitethorn ceanothus	5 5 5 5 5	
Weste-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	greenleaf manzanita squawcarpet whitethorn ceanothus	5 5 5	
114: Barnard-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Thurber needlegrass Wyoming big sagebrush antelope bitterbrush basin wildrye bluebunch wheatgrass		15 5 5 5 60

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
115: Beckwourth-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Fordney-----	SANDY LOAM FAN 12-16" (R021XE180CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1500 1000	Idaho fescue antelope bitterbrush beardless wildrye mountain big sagebrush needleandthread		40 5 10 10 20
116: Bieber-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE NORMAL UNFAVORABLE	1000 700 500	Idaho fescue Thurber needlegrass antelope bitterbrush bluebunch wheatgrass bluegrass low sagebrush		15 15 5 40 10 10
117: Biscaro-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
118: Biscaro-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Calnat-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
119: Biscaro-----	SILTY SODIC FLAT 12-16" (R021XS192CA)	FAVORABLE NORMAL UNFAVORABLE	1000 800 600	Nevada bluegrass basin wildrye big sagebrush black greasewood rubber rabbitbrush spiny hopsage		40 40 5 5 5 5
Playas-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
120: Blickenstaff----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
121: Honeylake-----	SALINE-SODIC SUBIRRIGATED 6-16" (R023XG058CA)	FAVORABLE NORMAL UNFAVORABLE	1000 800 600	alkaligrass basin wildrye black greasewood bluegrass inland saltgrass rush western wheatgrass		10 5 30 10 25 5 5
122: Robert-----	SALINE-SODIC LOAM 6-12" (R023XG059CA)	FAVORABLE NORMAL UNFAVORABLE	1100 900 600	basin big sagebrush basin wildrye black greasewood inland saltgrass rabbitbrush		5 55 5 15 10

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
123: Robert-----	SALINE-SODIC FLAT 6-9" (R023XG050CA)	FAVORABLE	500	black greasewood		60
		NORMAL	400	bottlebrush squirreltail		5
		UNFAVORABLE	300	inland saltgrass		15
				seepweed		10
				spiny hopsage		5
				western wheatgrass		5
124: Bonta-----	---	FAVORABLE	---	antelope bitterbrush	5	
		NORMAL	---	big sagebrush	15	
		UNFAVORABLE	---	greenleaf manzanita	5	
				other perennial grasses	5	
				western needlegrass	10	
				whitethorn ceanothus	5	
125: Bonta-----	---	FAVORABLE	---	antelope bitterbrush	5	
		NORMAL	---	big sagebrush	15	
		UNFAVORABLE	---	greenleaf manzanita	5	
				other perennial grasses	5	
				western needlegrass	10	
				whitethorn ceanothus	5	
126: Bonta-----	---	FAVORABLE	---	antelope bitterbrush	5	
		NORMAL	---	mountain big sagebrush	5	
		UNFAVORABLE	---	mountain brome	10	
				needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
127: Boulder Lake---	CLAY FLOODPLAIN 9-16" (R023XF092CA)	FAVORABLE	800	Nevada bluegrass		25
		NORMAL	500	beardless wildrye		10
		UNFAVORABLE	300	bottlebrush squirreltail		5
				mat muhly		5
				rush		5
				sedge		10
				silver sagebrush		35
				western wheatgrass		5
128: Boulder Lake---	WET CLAY BASIN 12-16" (R021XE194CA)	FAVORABLE	2000	Nevada bluegrass		10
		NORMAL	1800	beardless wildrye		5
		UNFAVORABLE	1400	clubmoss		5
				lake quillwort		5
				lesser spikemoss		5
				mat muhly		5
				rush		20
				silver sagebrush		35
				western wheatgrass		5
129: Brubeck-----	CLAY UPLAND 9-16" (R023XF084CA)	FAVORABLE	900	Thurber needlegrass		10
		NORMAL	700	beardless wildrye		10
		UNFAVORABLE	500	big sagebrush		5
				bottlebrush squirreltail		25
				littleleaf horsebrush		10
				rubber rabbitbrush		10
				western wheatgrass		15
130: Brubeck-----	CLAY UPLAND 9-16" (R023XF084CA)	FAVORABLE	900	Thurber needlegrass		10
		NORMAL	700	beardless wildrye		10
		UNFAVORABLE	500	big sagebrush		5
				bottlebrush squirreltail		25
				littleleaf horsebrush		10
				rubber rabbitbrush		10
				western wheatgrass		15
131: Brubeck-----	CLAY UPLAND 9-16" (R023XF084CA)	FAVORABLE	900	Thurber needlegrass		10
		NORMAL	700	beardless wildrye		10
		UNFAVORABLE	500	big sagebrush		5
				bottlebrush squirreltail		25
				littleleaf horsebrush		10
				rubber rabbitbrush		10
				western wheatgrass		15

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Diaz-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE	1200	Thurber needlegrass		15
		NORMAL	900	antelope bitterbrush		5
		UNFAVORABLE	600	basin wildrye		5
				big sagebrush		5
				bluebunch wheatgrass		60
132: Bruback-----	CLAY UPLAND 9-16" (R023XF084CA)	FAVORABLE	900	Thurber needlegrass		10
		NORMAL	700	beardless wildrye		10
		UNFAVORABLE	500	big sagebrush		5
				bottlebrush squirreltail		25
				littleleaf horsebrush		10
				rubber rabbitbrush		10
				western wheatgrass		15
Loomis-----	VERY SHALLOW STONY LOAM 9-12" (R023XF087CA)	FAVORABLE	600	Sandberg bluegrass		5
		NORMAL	400	Thurber needlegrass		20
		UNFAVORABLE	200	black sagebrush		40
				bluebunch wheatgrass		35
				bottlebrush squirreltail		5
133: Buckbay-----	LOAM 12-16" (R021XE176CA)	FAVORABLE	2200	Idaho fescue		30
		NORMAL	1800	antelope bitterbrush		5
		UNFAVORABLE	1400	bluebunch wheatgrass		30
				mountain big sagebrush		5
				needlegrass		25
Orhood-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE	1800	Idaho fescue		25
		NORMAL	1400	Lemmon needlegrass		5
		UNFAVORABLE	1000	Sandberg bluegrass		5
				Thurber needlegrass		10
				antelope bitterbrush		5
				arrowleaf balsamroot		5
				bluebunch wheatgrass		30
				mountain big sagebrush		5
				rabbitbrush		5
Devada-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE	1000	Idaho fescue		5
		NORMAL	700	Thurber needlegrass		15
		UNFAVORABLE	500	antelope bitterbrush		5
				bluebunch wheatgrass		40
				bluegrass		10
				low sagebrush		15
134: Buckbay-----	LOAM 12-16" (R021XE176CA)	FAVORABLE	2200	Idaho fescue		30
		NORMAL	1800	antelope bitterbrush		5
		UNFAVORABLE	1400	bluebunch wheatgrass		30
				mountain big sagebrush		5
				needlegrass		25
Orhood-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE	1800	Idaho fescue		25
		NORMAL	1400	Lemmon needlegrass		5
		UNFAVORABLE	1000	Sandberg bluegrass		5
				Thurber needlegrass		10
				antelope bitterbrush		5
				arrowleaf balsamroot		5
				bluebunch wheatgrass		30
				mountain big sagebrush		5
				rabbitbrush		5
Fredonyer-----	VERY STONY LOAM 12-16" (R021XE178CA)	FAVORABLE	1500	Idaho fescue		45
		NORMAL	1000	curl-leaf mountain mahogany		30
		UNFAVORABLE	700	mountain big sagebrush		5

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
135: Bucklake-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE	1200	Thurber needlegrass		15
		NORMAL	900	antelope bitterbrush		5
		UNFAVORABLE	600	basin wildrye		5
				bluebunch wheatgrass		60
				mountain big sagebrush		5
				rabbitbrush		5
Corral-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE	1200	Thurber needlegrass		15
		NORMAL	900	basin wildrye		5
		UNFAVORABLE	600	big sagebrush		5
				bluebunch wheatgrass		60
Rubble land-----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
136: Bunanch-----		FAVORABLE	---	Idaho fescue	5	
		NORMAL	---	antelope bitterbrush	10	
		UNFAVORABLE	---	mountain big sagebrush	5	
137: Cagwin-----		FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	pinemat manzanita	5	
		UNFAVORABLE	---	whitethorn ceanothus	5	
138: Cagwin-----		FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	pinemat manzanita	5	
		UNFAVORABLE	---	whitethorn ceanothus	5	
139: Calnat-----	SODIC LOAM 6-9" (R023XG048CA)	FAVORABLE	1100	basin big sagebrush		10
		NORMAL	900	basin wildrye		65
		UNFAVORABLE	600	black greasewood		10
				bottlebrush squirreltail		5
140: Calneva-----	SODIC FLAT 6-9" (R023XG046CA)	FAVORABLE	700	black greasewood		10
		NORMAL	500	bottlebrush squirreltail		10
		UNFAVORABLE	300	bud sagebrush		10
				shadscale		60
141: Calneva-----	SODIC FLAT 6-9" (R023XG046CA)	FAVORABLE	700	black greasewood		10
		NORMAL	500	bottlebrush squirreltail		10
		UNFAVORABLE	300	bud sagebrush		10
				shadscale		60
Playas-----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
142: Calpine-----	GRANITIC FAN 12-16" (R021XE181CA)	FAVORABLE	2500	Indian ricegrass		15
		NORMAL	1800	antelope bitterbrush		15
		UNFAVORABLE	1200	beardless wildrye		10
				mountain big sagebrush		5
				needleandthread		20
				western needlegrass		20
143: Calpine-----	GRANITIC FAN 12-16" (R021XE181CA)	FAVORABLE	2500	Indian ricegrass		15
		NORMAL	1800	antelope bitterbrush		15
		UNFAVORABLE	1200	beardless wildrye		10
				mountain big sagebrush		5
				needleandthread		20
				western needlegrass		20
144: Calpine-----	GRANITIC FAN 12-16" (R021XE181CA)	FAVORABLE	2500	Indian ricegrass		15
		NORMAL	1800	antelope bitterbrush		15
		UNFAVORABLE	1200	beardless wildrye		10
				mountain big sagebrush		5
				needleandthread		20
				western needlegrass		20

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California; Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
145: Calpine-----	GRANITIC FAN 12-16" (R021XE181CA)	FAVORABLE	2500	Indian ricegrass		15
		NORMAL	1800	antelope bitterbrush		15
		UNFAVORABLE	1200	beardless wildrye		10
				mountain big sagebrush		5
				needleandthread		20
				western needlegrass		20
146: Indiano-----	LOAM 12-16" (R021XE176CA)	FAVORABLE	900	Thurber needlegrass		15
		NORMAL	700	antelope bitterbrush		5
		UNFAVORABLE	500	basin wildrye		5
				big sagebrush		15
				bluebunch wheatgrass		50
				green ephedra		5
Chalco-----	SHALLOW LOAM 12-16" (R021XE184CA)	FAVORABLE	400	Sandberg bluegrass		10
		NORMAL	300	Thurber needlegrass		25
		UNFAVORABLE	200	bottlebrush squirreltail		15
				littleleaf horsebrush		5
				low sagebrush		20
				other perennial grasses		5
147: Capon-----	LOAM 12-16" (R021XE176CA)	FAVORABLE	2200	Idaho fescue		30
		NORMAL	1800	antelope bitterbrush		6
		UNFAVORABLE	1400	big sagebrush		5
				bluebunch wheatgrass		30
				needlegrass		25
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
148: Cewat-----	DROUGHTY LOAM 6-9" (R023XG056CA)	FAVORABLE	600	Indian ricegrass		10
		NORMAL	450	Thurber needlegrass		10
		UNFAVORABLE	300	Wyoming big sagebrush		25
				bottlebrush squirreltail		10
				littleleaf horsebrush		5
				spiny hopsage		20
149: Cewat-----	STONY LOAM 6-9" (R023XG053CA)	FAVORABLE	800	Indian ricegrass		5
		NORMAL	600	Thurber needlegrass		20
		UNFAVORABLE	400	Wyoming big sagebrush		15
				bluebunch wheatgrass		5
				bottlebrush squirreltail		5
				desert needlegrass		20
				green ephedra		5
				littleleaf horsebrush		10
McConnel-----	SANDY TERRACE 6-9" (R023XG054CA)	FAVORABLE	1100	Indian ricegrass		25
		NORMAL	700	Sandberg bluegrass		5
		UNFAVORABLE	500	Wyoming big sagebrush		30
				bottlebrush squirreltail		10
				globemallow		5
				needleandthread		15
Toulon-----	SODIC GRAVELLY SAND 6-9" (R023XG057CA)	FAVORABLE	900	Indian ricegrass		15
		NORMAL	700	bottlebrush squirreltail		5
		UNFAVORABLE	500	shadscale		65
				spiny hopsage		10
150: Chappuis-----	SODIC LOAM 6-9" (R023XG048CA)	FAVORABLE	1100	basin big sagebrush		10
		NORMAL	900	basin wildrye		55
		UNFAVORABLE	600	black greasewood		10
				bottlebrush squirreltail		5

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
151: Chappuis-----	SALINE-SODIC LOAM 6-12" (R023XG059CA)	FAVORABLE	1100	basin big sagebrush		5
		NORMAL	900	basin wildrye		55
		UNFAVORABLE	600	black greasewood		5
				inland saltgrass		15
				rabbitbrush		10
152: Chimney-----	---	FAVORABLE	---	Columbia needlegrass	5	
		NORMAL	---	Idaho fescue	5	
		UNFAVORABLE	---	antelope bitterbrush	5	
				bottlebrush squirreltail	5	
				mountain big sagebrush	5	
				squawcarpet	5	
153: Chimney-----	---	FAVORABLE	---	Columbia needlegrass	5	
		NORMAL	---	Idaho fescue	5	
		UNFAVORABLE	---	antelope bitterbrush	5	
				bottlebrush squirreltail	5	
				mountain big sagebrush	5	
				squawcarpet	5	
154: Chimney-----	---	FAVORABLE	---	Columbia needlegrass	5	
		NORMAL	---	Idaho fescue	5	
		UNFAVORABLE	---	antelope bitterbrush	5	
				bottlebrush squirreltail	5	
				mountain big sagebrush	5	
				squawcarpet	5	
Janile-----	---	FAVORABLE	---	Columbia needlegrass	5	
		NORMAL	---	Idaho fescue	30	
		UNFAVORABLE	---	antelope bitterbrush	5	
				bottlebrush squirreltail	5	
				mountain big sagebrush	35	
Waterman-----	---	FAVORABLE	---	Columbia needlegrass	5	
		NORMAL	---	Idaho fescue	30	
		UNFAVORABLE	---	antelope bitterbrush	5	
				bottlebrush squirreltail	5	
				mountain big sagebrush	35	
				squawcarpet	5	
155: Chimney-----	---	FAVORABLE	---	Columbia needlegrass	5	
		NORMAL	---	Idaho fescue	5	
		UNFAVORABLE	---	antelope bitterbrush	5	
				bottlebrush squirreltail	5	
				mountain big sagebrush	5	
				squawcarpet	5	
Janile-----	---	FAVORABLE	---	Columbia needlegrass	5	
		NORMAL	---	Idaho fescue	30	
		UNFAVORABLE	---	antelope bitterbrush	5	
				bottlebrush squirreltail	5	
				mountain big sagebrush	35	
Waterman-----	---	FAVORABLE	---	Columbia needlegrass	5	
		NORMAL	---	Idaho fescue	30	
		UNFAVORABLE	---	antelope bitterbrush	5	
				bottlebrush squirreltail	5	
				mountain big sagebrush	35	
				squawcarpet	5	
156: Chimney-----	---	FAVORABLE	---	Columbia needlegrass	5	
		NORMAL	---	Idaho fescue	5	
		UNFAVORABLE	---	antelope bitterbrush	5	
				bottlebrush squirreltail	5	
				mountain big sagebrush	5	
				squawcarpet	5	
Waterman-----	---	FAVORABLE	---	Columbia needlegrass	5	
		NORMAL	---	Idaho fescue	30	
		UNFAVORABLE	---	antelope bitterbrush	5	
				bottlebrush squirreltail	5	
				mountain big sagebrush	35	
				squawcarpet	5	

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
157: Chirpchatte-----		FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	needlegrass	5	
		UNFAVORABLE	---	other perennial grasses	5	
				whitethorn ceanothus	5	
158: Cleghorn-----	SANDY LOAM TERRACE 12-16" (R021XE195CA)	FAVORABLE	1800	Thurber needlegrass		15
		NORMAL	1500	basin big sagebrush		5
		UNFAVORABLE	1000	basin wildrye		30
				beardless wildrye		5
				needleandthread		15
159: Cleghorn-----	LOAMY UPLAND 9-12" (R023XF091CA)	FAVORABLE	1200	Thurber needlegrass		15
		NORMAL	900	Wyoming big sagebrush		10
		UNFAVORABLE	600	basin wildrye		30
				needleandthread		15
160: Cochran-----	COOL LOAM 12-16" (R021XE044CA)	FAVORABLE	2200	Idaho fescue		50
		NORMAL	1800	antelope bitterbrush		5
		UNFAVORABLE	1400	bluegrass		15
				mountain big sagebrush		5
				needlegrass		10
161: Cochran-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE	1800	Idaho fescue		25
		NORMAL	1400	antelope bitterbrush		10
		UNFAVORABLE	1000	bluebunch wheatgrass		30
				mountain big sagebrush		5
				needlegrass		25
162: Corral-----	SANDY LOAM TERRACE 12-16" (R021XE195CA)	FAVORABLE	1800	basin wildrye		40
		NORMAL	1500	big sagebrush		10
		UNFAVORABLE	1000	needleandthread		20
163: Corral-----	SANDY LOAM TERRACE 12-16" (R021XE195CA)	FAVORABLE	1800	basin wildrye		40
		NORMAL	1500	big sagebrush		10
		UNFAVORABLE	1000	needleandthread		20
164: Corral-----	LOAMY UPLAND 9-12" (R023XF091CA)	FAVORABLE	1200	Thurber needlegrass		15
		NORMAL	900	basin wildrye		30
		UNFAVORABLE	600	big sagebrush		10
				needleandthread		15
165: Corral-----	LOAMY UPLAND 9-12" (R023XF091CA)	FAVORABLE	1200	Thurber needlegrass		15
		NORMAL	900	basin wildrye		30
		UNFAVORABLE	600	big sagebrush		10
				needleandthread		15
166: Corral-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE	1200	Thurber needlegrass		15
		NORMAL	900	basin wildrye		5
		UNFAVORABLE	600	big sagebrush		5
				bluebunch wheatgrass		60
167: Corral-----	SANDY LOAM TERRACE 12-16" (R021XE195CA)	FAVORABLE	1800	basin wildrye		40
		NORMAL	1500	big sagebrush		10
		UNFAVORABLE	1000	needleandthread		20
Chalco-----	SHALLOW LOAM 12-16" (R021XE184CA)	FAVORABLE	400	Sandberg bluegrass		10
		NORMAL	300	Thurber needlegrass		25
		UNFAVORABLE	200	bottlebrush squirreltail		15
				littleleaf horsebrush		5
				low sagebrush		20
				other perennial grasses		5
168: Corral-----	LOAMY UPLAND 9-12" (R023XF091CA)	FAVORABLE	1200	Thurber needlegrass		15
		NORMAL	900	basin wildrye		30
		UNFAVORABLE	600	big sagebrush		10
				needleandthread		15

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Glenbrook-----	SHALLOW GRANITIC UPLAND 9-12" (R026XF053CA)	FAVORABLE	900	Thurber needlegrass		10
		NORMAL	600	antelope bitterbrush		15
		UNFAVORABLE	400	big sagebrush		10
				bottlebrush squirreltail		10
				desert needlegrass		30
				green ephedra		5
				other perennial forbs		5
				other perennial grasses		5
				other shrubs		5
				yellow rabbitbrush		5
169: Devada-----	SHALLOW STONY LOAM 9-12" (R023XF081CA)	FAVORABLE	900	Thurber needlegrass		15
		NORMAL	700	bluebunch wheatgrass		30
		UNFAVORABLE	500	bluegrass		10
				low sagebrush		20
Brubeck-----	CLAY UPLAND 9-16" (R023XF084CA)	FAVORABLE	900	Thurber needlegrass		10
		NORMAL	700	beardless wildrye		10
		UNFAVORABLE	500	big sagebrush		5
				bottlebrush squirreltail		25
				littleleaf horsebrush		10
				rubber rabbitbrush		10
				western wheatgrass		15
170: Devada-----	SHALLOW STONY LOAM 9-12" (R023XF081CA)	FAVORABLE	900	Thurber needlegrass		15
		NORMAL	700	bluebunch wheatgrass		30
		UNFAVORABLE	500	bluegrass		10
				low sagebrush		20
Bucklake-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE	1200	Thurber needlegrass		15
		NORMAL	900	antelope bitterbrush		5
		UNFAVORABLE	600	basin wildrye		5
				bluebunch wheatgrass		60
				mountain big sagebrush		5
				rabbitbrush		5
171: Devada-----	SHALLOW STONY LOAM 9-12" (R023XF081CA)	FAVORABLE	900	Thurber needlegrass		15
		NORMAL	700	bluebunch wheatgrass		30
		UNFAVORABLE	500	bluegrass		10
				low sagebrush		20
Fivesprings-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE	1200	Thurber needlegrass		15
		NORMAL	900	antelope bitterbrush		5
		UNFAVORABLE	600	basin wildrye		5
				bluebunch wheatgrass		60
Rubble land-----	---	FAVORABLE	---	mountain big sagebrush		5
		NORMAL	---			
		UNFAVORABLE	---			
172: Devada-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE	1000	Idaho fescue		5
		NORMAL	700	Thurber needlegrass		15
		UNFAVORABLE	500	antelope bitterbrush		5
				bluebunch wheatgrass		40
				bluegrass		10
Gavel-----	---	FAVORABLE	---	low sagebrush		15
		NORMAL	---	Columbia needlegrass	5	
		UNFAVORABLE	---	Idaho fescue	30	
				bottlebrush squirreltail	5	
				curl-leaf mountain mahogany	5	
				mountain big sagebrush	35	
				sedge	5	

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
173: Devada-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE NORMAL UNFAVORABLE	1000 700 500	Idaho fescue Thurber needlegrass antelope bitterbrush bluebunch wheatgrass bluegrass low sagebrush		5 15 5 40 10 15
Gavel-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	Columbia needlegrass Idaho fescue bottlebrush squirreltail curl-leaf mountain mahogany mountain big sagebrush sedge	5 30 5 5 35 5	
Whitinger-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1400 1000	Idaho fescue antelope bitterbrush bluebunch wheatgrass mountain big sagebrush needlegrass		25 10 30 15 25
174: Devada-----	SHALLOW STONY LOAM 9-12" (R023XF081CA)	FAVORABLE NORMAL UNFAVORABLE	900 700 500	Thurber needlegrass bluebunch wheatgrass bluegrass low sagebrush		15 30 10 20
Glean-----	LOAM 12-16" (R021XE176CA)	FAVORABLE NORMAL UNFAVORABLE	2000 1800 1400	Idaho fescue antelope bitterbrush bluebunch wheatgrass mountain big sagebrush needlegrass		30 5 30 5 25
Sumine-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1000 800 500	Idaho fescue Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush		5 5 10 5 30 10
175: Devada-----	SHALLOW STONY LOAM 9-12" (R023XF081CA)	FAVORABLE NORMAL UNFAVORABLE	900 700 500	Thurber needlegrass bluebunch wheatgrass bluegrass low sagebrush		15 30 10 20
Longcreek-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush		15 5 5 60 5
176: Devada-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE NORMAL UNFAVORABLE	1000 700 500	Idaho fescue Thurber needlegrass antelope bitterbrush bluebunch wheatgrass bluegrass low sagebrush		5 15 5 40 10 15
Orhood-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1400 1000	Idaho fescue Lemmon needlegrass Sandberg bluegrass Thurber needlegrass antelope bitterbrush arrowleaf balsamroot bluebunch wheatgrass mountain big sagebrush rabbitbrush		25 5 5 10 5 5 30 5 5
Hart Camp-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1300 1200 900	Canby bluegrass Idaho fescue Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush		5 5 5 20 5 25 15

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest Range	
			Lb/acre		Pct	Pct
177: Devada-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE NORMAL UNFAVORABLE	1000 700 500	Idaho fescue Thurber needlegrass antelope bitterbrush bluebunch wheatgrass bluegrass low sagebrush		5 15 5 40 10 15
Papeek-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	Idaho fescue antelope bitterbrush mountain big sagebrush	5 5 5	
Gavel-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	Columbia needlegrass Idaho fescue bottlebrush squirreltail curl-leaf mountain mahogany mountain big sagebrush sedge	5 30 5 5 35 5	
178: Devada-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE NORMAL UNFAVORABLE	1000 700 500	Idaho fescue Thurber needlegrass antelope bitterbrush bluebunch wheatgrass bluegrass low sagebrush		5 15 5 40 10 15
Petescreek-----	COOL LOAM 12-16" (R021XE044CA)	FAVORABLE NORMAL UNFAVORABLE	2200 1800 1400	Idaho fescue antelope bitterbrush bluegrass mountain big sagebrush needlegrass		50 5 15 5 10
Fiddler-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1000 800 600	Idaho fescue Nevada bluegrass Sandberg bluegrass Thurber needlegrass antelope bitterbrush arrowleaf balsamroot bluebunch wheatgrass bottlebrush squirreltail mountain big sagebrush rabbitbrush		15 10 5 5 5 5 10 5 10 5
179: Devada-----	SHALLOW STONY LOAM 9-12" (R023XF081CA)	FAVORABLE NORMAL UNFAVORABLE	900 700 500	Thurber needlegrass bluebunch wheatgrass bluegrass low sagebrush		15 30 10 20
Rock outcrop----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
180: Dotta-----	COOL LOAM 12-16" (R021XE044CA)	FAVORABLE NORMAL UNFAVORABLE	2200 1800 1400	Idaho fescue antelope bitterbrush bluegrass mountain big sagebrush needlegrass		50 5 15 5 10
181: Dotta-----	COOL LOAM 12-16" (R021XE044CA)	FAVORABLE NORMAL UNFAVORABLE	2200 1800 1400	Idaho fescue antelope bitterbrush bluegrass mountain big sagebrush needlegrass		50 5 15 5 10
182: Dryvalley-----	SILTY FLAT 12-16" (R021XE177CA)	FAVORABLE NORMAL UNFAVORABLE	1200 800 500	Nevada bluegrass big sagebrush littleleaf horsebrush rubber rabbitbrush		70 10 5 5

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
					Pct	Pct
183: Dryvalley-----	SILTY FLAT 12-16" (R021XE177CA)	FAVORABLE	1200	Nevada bluegrass		70
		NORMAL	800	basin big sagebrush		10
		UNFAVORABLE	500	littleleaf horsebrush rubber rabbitbrush		5 5
Playas-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
184: Eaglelake-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	needlegrass	5	
		UNFAVORABLE	---	other perennial grasses snowbrush ceanothus whitethorn ceanothus	5 5 5	
185: Eaglelake-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	needlegrass	5	
		UNFAVORABLE	---	other perennial grasses snowbrush ceanothus whitethorn ceanothus	5 5 5	
Outland-----	---	FAVORABLE	---	Sierra chinkapin	5	
		NORMAL	---	greenleaf manzanita	5	
		UNFAVORABLE	---	sharpleaf snowberry snowberry snowbrush ceanothus squawcarpet whitethorn ceanothus	5 5 5 5 5	
Weste-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	squawcarpet	5	
		UNFAVORABLE	---	whitethorn ceanothus	5	
186: Eaglelake-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	needlegrass	5	
		UNFAVORABLE	---	other perennial grasses snowbrush ceanothus whitethorn ceanothus	5 5 5	
Outland-----	---	FAVORABLE	---	Sierra chinkapin	5	
		NORMAL	---	greenleaf manzanita	5	
		UNFAVORABLE	---	sharpleaf snowberry snowberry snowbrush ceanothus squawcarpet whitethorn ceanothus	5 5 5 5 5	
Weste-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	squawcarpet	5	
		UNFAVORABLE	---	whitethorn ceanothus	5	
187: Eaglelake-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	needlegrass	5	
		UNFAVORABLE	---	other perennial grasses snowbrush ceanothus whitethorn ceanothus	5 5 5	
Outland-----	---	FAVORABLE	---	Sierra chinkapin	5	
		NORMAL	---	antelope bitterbrush	5	
		UNFAVORABLE	---	greenleaf manzanita sharpleaf snowberry snowberry snowbrush ceanothus squawcarpet whitethorn ceanothus	5 5 5 5 5 5	
Weste-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	squawcarpet	5	
		UNFAVORABLE	---	whitethorn ceanothus	5	

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
188: Eaglelake-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	needlegrass	5	
		UNFAVORABLE	---	other perennial grasses	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
Outland-----	---	FAVORABLE	---	Sierra chinkapin	5	
		NORMAL	---	antelope bitterbrush	5	
		UNFAVORABLE	---	greenleaf manzanita	5	
				sharpleaf snowberry	5	
				snowberry	5	
				snowbrush ceanothus	5	
				squawcarpet	5	
				whitethorn ceanothus	5	
Weste-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	squawcarpet	5	
		UNFAVORABLE	---	whitethorn ceanothus	5	
189: Easte-----	---	FAVORABLE	---	Idaho fescue	5	
		NORMAL	---	antelope bitterbrush	5	
		UNFAVORABLE	---	mountain big sagebrush	5	
				other perennial grasses	5	
Fredonyer-----	VERY STONY LOAM 12-16" (R021XE178CA)	FAVORABLE	1500	Idaho fescue		45
		NORMAL	1000	curl-leaf mountain mahogany		30
		UNFAVORABLE	700	mountain big sagebrush		5
190: Easte-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	needlegrass	5	
		UNFAVORABLE	---	other perennial grasses	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
Roop-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	needlegrass	5	
		UNFAVORABLE	---	other perennial grasses	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
191: Easte-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	needlegrass	5	
		UNFAVORABLE	---	other perennial grasses	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
Roop-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	needlegrass	5	
		UNFAVORABLE	---	other perennial grasses	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
192: Spot-----	SODIC FLAT 6-9" (R023XG046CA)	FAVORABLE	700	black greasewood		15
		NORMAL	500	bottlebrush squirreltail		10
		UNFAVORABLE	300	bud sagebrush		10
				shadscale		60
Playas-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
193: Spot-----	SODIC FLAT 6-9" (R023XG046CA)	FAVORABLE	700	black greasewood		15
		NORMAL	500	bottlebrush squirreltail		10
		UNFAVORABLE	300	bud sagebrush		10
				shadscale		60
Ragtown-----	SODIC TERRACE 6-9" (R023XG047CA)	FAVORABLE	900	basin wildrye		5
		NORMAL	700	black greasewood		50
		UNFAVORABLE	400	bottlebrush squirreltail		5
				shadscale		15
				spiny hopsage		15
Playas-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
194: Fiddler-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE	1000	Idaho fescue		15
		NORMAL	800	Nevada bluegrass		10
		UNFAVORABLE	600	Sandberg bluegrass		5
				Thurber needlegrass		5
				antelope bitterbrush		5
				arrowleaf balsamroot		5
				bluebunch wheatgrass		10
				bottlebrush squirreltail		5
				mountain big sagebrush		10
				rabbitbrush		5
Gavel-----		FAVORABLE	---	Columbia needlegrass	5	
		NORMAL	---	Idaho fescue	30	
		UNFAVORABLE	---	bottlebrush squirreltail	5	
				curl-leaf mountain mahogany	5	
				mountain big sagebrush	35	
				sedge	5	
Rubble land----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
195: Fiddler-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE	1000	Idaho fescue		15
		NORMAL	800	Nevada bluegrass		10
		UNFAVORABLE	600	Sandberg bluegrass		5
				Thurber needlegrass		5
				antelope bitterbrush		5
				arrowleaf balsamroot		5
				bluebunch wheatgrass		10
				bottlebrush squirreltail		5
				mountain big sagebrush		10
				rabbitbrush		5
Gavel-----		FAVORABLE	---	Columbia needlegrass	5	
		NORMAL	---	Idaho fescue	30	
		UNFAVORABLE	---	bottlebrush squirreltail	5	
				curl-leaf mountain mahogany	5	
				mountain big sagebrush	35	
				sedge	5	
Rubble land----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
196: Fiddler-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE	1000	Idaho fescue		15
		NORMAL	800	Nevada bluegrass		10
		UNFAVORABLE	600	Sandberg bluegrass		5
				Thurber needlegrass		5
				antelope bitterbrush		5
				arrowleaf balsamroot		5
				bluebunch wheatgrass		10
				bottlebrush squirreltail		5
				mountain big sagebrush		10
				rabbitbrush		5
Madeline-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE	1800	Idaho fescue		25
		NORMAL	1400	Thurber needlegrass		25
		UNFAVORABLE	1000	antelope bitterbrush		10
				bluebunch wheatgrass		30
				mountain big sagebrush		5

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
197: Fiddler-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1000 800 600	Idaho fescue Nevada bluegrass Sandberg bluegrass Thurber needlegrass antelope bitterbrush arrowleaf balsamroot bluebunch wheatgrass bottlebrush squirreltail mountain big sagebrush rabbitbrush		15 10 5 5 5 5 10 5 10 5
Orhood-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1400 1000	Idaho fescue Lemmon needlegrass Sandberg bluegrass Thurber needlegrass antelope bitterbrush arrowleaf balsamroot bluebunch wheatgrass mountain big sagebrush rabbitbrush		25 5 5 10 5 5 30 5 5
Petescreek-----	COOL LOAM 12-16" (R021XE044CA)	FAVORABLE NORMAL UNFAVORABLE	2200 1800 1400	Idaho fescue antelope bitterbrush bluegrass mountain big sagebrush needlegrass		50 5 15 5 10
198: Fivesprings-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush		15 5 5 60 5
Longcreek-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush		15 5 5 60 5
199: Fivesprings-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush		15 5 5 60 5
Longcreek-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush		15 5 5 60 5
200: Fivesprings-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush		15 5 5 60 5
Longcreek-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush		15 5 5 60 5
Rubble land-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
201: Fivesprings-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush		15 5 5 60 5

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Rubble land-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Devada-----	SHALLOW STONY LOAM 9-12" (R023XF081CA)	FAVORABLE NORMAL UNFAVORABLE	900 700 500	Thurber needlegrass bluebunch wheatgrass bluegrass low sagebrush		15 30 10 20
202: Fivesprings-----	WARM STONY LOAM 12-16" (R021XE179CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1200 900	Thurber needlegrass antelope bitterbrush bluebunch wheatgrass mountain big sagebrush		15 5 70 5
Sumine-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1000 800 600	Idaho fescue Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush		5 5 10 5 30 10
203: Fluents-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Riverwash-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
204: Fordney-----	SANDY LOAM FAN 12-16" (R021XE180CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1500 1000	Idaho fescue antelope bitterbrush beardless wildrye mountain big sagebrush needleandthread		40 5 10 10 20
205: Fordney-----	GRANITIC FAN 12-16" (R021XE181CA)	FAVORABLE NORMAL UNFAVORABLE	2500 1800 1200	Indian ricegrass antelope bitterbrush beardless wildrye mountain big sagebrush needleandthread		15 15 10 10 40
206: Fordney-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
207: Forgay-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	greenleaf manzanita lobbian ceanothus other perennial grasses	5 5 5	
208: Forgay-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	greenleaf manzanita other perennial grasses whitethorn ceanothus	5 5 5	
209: Fortsage-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
210: Fortsage-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
211: Fraval-----		FAVORABLE	---	Columbia needlegrass	5	
		NORMAL	---	Idaho fescue	30	
		UNFAVORABLE	---	bottlebrush squirreltail	5	
				curl-leaf mountain mahogany	5	
				mountain big sagebrush	35	
				sedge	5	
Fredonyer-----	VERY STONY LOAM 12-16" (R021XE178CA)	FAVORABLE	1500	Idaho fescue		45
		NORMAL	1000	curl-leaf mountain mahogany		30
		UNFAVORABLE	700	mountain big sagebrush		5
Said-----		FAVORABLE	---	Columbia needlegrass	5	
		NORMAL	---	Idaho fescue	5	
		UNFAVORABLE	---	manzanita	25	
				mountain big sagebrush	10	
				snowberry	10	
				squawcarpet	10	
				whitethorn ceanothus	15	
212: Fraval-----		FAVORABLE	---	Columbia needlegrass	5	
		NORMAL	---	Idaho fescue	30	
		UNFAVORABLE	---	bottlebrush squirreltail	5	
				curl-leaf mountain mahogany	5	
				mountain big sagebrush	35	
				sedge	5	
Said-----		FAVORABLE	---	Columbia needlegrass	5	
		NORMAL	---	Idaho fescue	5	
		UNFAVORABLE	---	manzanita	25	
				mountain big sagebrush	10	
				snowberry	10	
				squawcarpet	10	
				whitethorn ceanothus	15	
213: Fredonyer-----	VERY STONY LOAM 12-16" (R021XE178CA)	FAVORABLE	1500	Idaho fescue		45
		NORMAL	1000	curl-leaf mountain mahogany		30
		UNFAVORABLE	700	mountain big sagebrush		5
Whitinger-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE	1800	Idaho fescue		25
		NORMAL	1400	antelope bitterbrush		10
		UNFAVORABLE	1000	bluebunch wheatgrass		30
				mountain big sagebrush		15
				needlegrass		25
Orhood-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE	1800	Idaho fescue		25
		NORMAL	1400	Lemmon needlegrass		5
		UNFAVORABLE	1000	Sandberg bluegrass		5
				Thurber needlegrass		10
				antelope bitterbrush		5
				arrowleaf balsamroot		5
				bluebunch wheatgrass		30
				mountain big sagebrush		5
				rabbitbrush		5
214: Fulstone-----	SHALLOW STONY CLAY LOAM 9-12" (R023XF083CA)	FAVORABLE	800	Lahontan sagebrush		30
		NORMAL	600	Thurber needlegrass		15
		UNFAVORABLE	400	bluebunch wheatgrass		50
Wylo-----	SHALLOW STONY CLAY LOAM 9-12" (R023XF083CA)	FAVORABLE	800	Lahontan sagebrush		30
		NORMAL	600	Thurber needlegrass		15
		UNFAVORABLE	400	bluebunch wheatgrass		50
215: Galeppi-----	GRANITIC FAN 9-12" (R026XF051CA)	FAVORABLE	1500	Anderson peachbrush		10
		NORMAL	1200	Indian ricegrass		25
		UNFAVORABLE	900	Wyoming big sagebrush		5
				antelope bitterbrush		15
				beardless wildrye		5
				needleandthread		30
				rubber rabbitbrush		10

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
216: Galeppi-----	GRANITIC UPLAND 9-12" (R026XF052CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Anderson peachbrush Wyoming big sagebrush antelope bitterbrush bluebunch wheatgrass green ephedra needlegrass other perennial grasses		5 5 15 10 5 50 2
217: Galeppi-----	GRANITIC UPLAND 9-12" (R026XF052CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Anderson peachbrush Wyoming big sagebrush antelope bitterbrush bluebunch wheatgrass green ephedra needlegrass other perennial grasses		5 5 15 10 5 50 2
Glenbrook-----	SHALLOW GRANITIC UPLAND 9-12" (R026XF053CA)	FAVORABLE NORMAL UNFAVORABLE	900 600 400	Thurber needlegrass antelope bitterbrush big sagebrush bottlebrush squirreltail desert needlegrass green ephedra other perennial forbs other perennial grasses other shrubs yellow rabbitbrush		10 15 10 10 30 5 5 5 5 5
218: Gavel-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	Columbia needlegrass Idaho fescue bottlebrush squirreltail curl-leaf mountain mahogany mountain big sagebrush sedge	5 30 5 5 35 5	
219: Gavel-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	Columbia needlegrass Idaho fescue bottlebrush squirreltail curl-leaf mountain mahogany mountain big sagebrush sedge	5 30 5 5 35 5	
Devada-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE NORMAL UNFAVORABLE	1000 700 500	Idaho fescue Thurber needlegrass antelope bitterbrush bluebunch wheatgrass bluegrass low sagebrush		5 15 5 40 10 15
220: Gerlach-----	CLAY UPLAND 9-16" (R023XF084CA)	FAVORABLE NORMAL UNFAVORABLE	900 700 500	Thurber needlegrass beardless wildrye big sagebrush bottlebrush squirreltail littleleaf horsebrush rubber rabbitbrush western wheatgrass		10 10 5 25 10 10 15
221: Gerlach-----	CLAY UPLAND 9-16" (R023XF084CA)	FAVORABLE NORMAL UNFAVORABLE	900 700 500	Thurber needlegrass beardless wildrye big sagebrush bottlebrush squirreltail littleleaf horsebrush rubber rabbitbrush western wheatgrass		10 10 5 25 10 10 15
222: Gerlach-----	SILTY CLAY FLAT 9-12" (R023XF085CA)	FAVORABLE NORMAL UNFAVORABLE	1000 700 400	big sagebrush black greasewood bottlebrush squirreltail saltbush spiny hopsage		25 30 10 5 15
Ravendale-----	CLAY FLOODPLAIN 9-16" (R023XF092CA)	FAVORABLE NORMAL UNFAVORABLE	1400 1100 800	Nevada bluegrass beardless wildrye silver sagebrush western wheatgrass		75 5 10 5

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
223: Gerle-----	---	FAVORABLE	---	chinkapin	5	
		NORMAL	---	currant	5	
		UNFAVORABLE	---	huckleberry oak	5	
				western brackenfern	5	
				whitethorn ceanothus	5	
224: Gerle-----	---	FAVORABLE	---	chinkapin	5	
		NORMAL	---	currant	5	
		UNFAVORABLE	---	huckleberry oak	5	
				western brackenfern	5	
				whitethorn ceanothus	5	
225: Gerle-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	needlegrass	5	
		UNFAVORABLE	---	other perennial grasses	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
Gerle-----	---	FAVORABLE	---	chinkapin	5	
		NORMAL	---	currant	5	
		UNFAVORABLE	---	huckleberry oak	5	
				western brackenfern	5	
				whitethorn ceanothus	5	
Gerle-----	---	FAVORABLE	---	chinkapin	5	
		NORMAL	---	currant	5	
		UNFAVORABLE	---	huckleberry oak	5	
				western brackenfern	5	
				whitethorn ceanothus	5	
226: Glean-----	LOAM 12-16" (R021XE176CA)	FAVORABLE	2000	Idaho fescue		30
		NORMAL	1800	antelope bitterbrush		5
		UNFAVORABLE	1400	bluebunch wheatgrass		30
				mountain big sagebrush		5
				needlegrass		25
227: Glean-----	---	FAVORABLE	2000	Idaho fescue		30
		NORMAL	1800	antelope bitterbrush		5
		UNFAVORABLE	1400	bluebunch wheatgrass		30
				mountain big sagebrush		5
				needlegrass		25
228: Glean-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE	1800	Idaho fescue		25
		NORMAL	1400	antelope bitterbrush		10
		UNFAVORABLE	1000	bluebunch wheatgrass		30
				mountain big sagebrush		5
				needlegrass		25
Searles-----	WARM STONY LOAM 12-16" (R021XE179CA)	FAVORABLE	1800	Thurber needlegrass		10
		NORMAL	1200	antelope bitterbrush		5
		UNFAVORABLE	900	bluebunch wheatgrass		70
				mountain big sagebrush		5
229: Glenbrook-----	SHALLOW GRANITIC UPLAND 9-12" (R026XF053CA)	FAVORABLE	900	Thurber needlegrass		10
		NORMAL	600	antelope bitterbrush		15
		UNFAVORABLE	400	big sagebrush		10
				bottlebrush squirreltail		10
				desert needlegrass		30
				green ophedra		5
				other perennial forbs		5
				other perennial grasses		5
				other shrubs		5
				yellow rabbitbrush		5

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
229 cont.: Graufels-----	GRANITIC UPLAND 9-12" (R026XF052CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Anderson peachbrush Wyoming big sagebrush antelope bitterbrush bluebunch wheatgrass green ephedra needlegrass		10 5 15 10 5 50
Rock outcrop----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
230: Graufels-----	GRANITIC UPLAND 9-12" (R026XF052CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Anderson peachbrush Wyoming big sagebrush antelope bitterbrush bluebunch wheatgrass green ephedra needlegrass		10 5 15 10 5 50
Glenbrook-----	SHALLOW GRANITIC UPLAND 9-12" (R026XF053CA)	FAVORABLE NORMAL UNFAVORABLE	900 600 400	Thurber needlegrass antelope bitterbrush big sagebrush bottlebrush squirreltail desert needlegrass green ephedra other perennial forbs other perennial grasses other shrubs yellow rabbitbrush		10 15 10 10 30 5 5 5 5 5
231: Hagata-----	SHALLOW LOAM 12-16" (R021XE184CA)	FAVORABLE NORMAL UNFAVORABLE	900 700 500	Idaho fescue Nevada bluegrass Thurber needlegrass bluegrass bottlebrush squirreltail erigonum low sagebrush		15 15 15 15 10 5 10
Playas-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
232: Hangtown-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	huckleberry oak other perennial grasses pinemat manzanita	5 5 5	
233: Hart Camp-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1300 1200 900	Canby bluegrass Idaho fescue Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush		5 5 5 20 5 25 15
Devada-----	SHALLOW STONY LOAM 9-12" (R023XF081CA)	FAVORABLE NORMAL UNFAVORABLE	900 700 500	Thurber needlegrass bluebunch wheatgrass bluegrass low sagebrush		15 30 10 20
Tunnison-----	SHALLOW CLAY 9-16" (R023XF093CA)	FAVORABLE NORMAL UNFAVORABLE	900 700 500	Thurber needlegrass beardless wildrye big sagebrush bottlebrush squirreltail littleleaf horsebrush rubber rabbitbrush western wheatgrass		10 10 10 25 10 10 15
234: Hart Camp-----	LOAM 12-16" (R021XE176CA)	FAVORABLE NORMAL UNFAVORABLE	2000 1800 1400	Idaho fescue antelope bitterbrush bluebunch wheatgrass mountain big sagebrush needlegrass		30 5 30 5 25
Madeline-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1400 1000	Idaho fescue Thurber needlegrass antelope bitterbrush bluebunch wheatgrass mountain big sagebrush		25 25 10 30 5

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
235: Haypress-----	GRANITIC UPLAND 9-12" (R026XF052CA)	FAVORABLE NORMAL UNFAVORABLE	1000 900 800	Anderson peachbrush antelope bitterbrush big sagebrush bluebunch wheatgrass green sphaedra needlegrass		10 15 5 10 5 50
Tanob-----	GRANITIC UPLAND 9-12" (R026XF052CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Anderson peachbrush antelope bitterbrush bluebunch wheatgrass green sphaedra mountain big sagebrush needlegrass	10 10 10 5 5 50	10 10 10 5 5 50
236: Herjun-----	SALINE-SODIC SUBIRRIGATED 6-16" (R023XG058CA)	FAVORABLE NORMAL UNFAVORABLE	1000 800 600	alkaligrass basin wildrye black greasewood bluegrass inland saltgrass rush western wheatgrass		10 5 30 10 25 5 5
237: Herjun-----	SALINE-SODIC SUBIRRIGATED 6-16" (R023XG058CA)	FAVORABLE NORMAL UNFAVORABLE	1000 800 600	alkaligrass basin wildrye black greasewood bluegrass inland saltgrass rush western wheatgrass		10 5 30 10 25 5 5
238: Highrock-----	SODIC TERRACE 6-9" (R023XG047CA)	FAVORABLE NORMAL UNFAVORABLE	900 700 400	basin wildrye black greasewood bottlebrush squirreltail shadscale spiny hopsage		5 50 5 15 15
Mazuma-----	SODIC TERRACE 6-9" (R023XG047CA)	FAVORABLE NORMAL UNFAVORABLE	400 200 50	basin wildrye black greasewood bottlebrush squirreltail seepweed shadscale		5 50 5 5 10
Wespac-----	SODIC LOAM 6-9" (R023XG048CA)	FAVORABLE NORMAL UNFAVORABLE	1100 900 600	basin big sagebrush basin wildrye black greasewood bottlebrush squirreltail		10 65 10 5
239: Highrock-----	SODIC TERRACE 6-9" (R023XG047CA)	FAVORABLE NORMAL UNFAVORABLE	900 700 400	basin wildrye black greasewood bottlebrush squirreltail shadscale spiny hopsage		5 50 5 15 15
Wespac-----	SODIC LOAM 6-9" (R023XG048CA)	FAVORABLE NORMAL UNFAVORABLE	1100 900 600	basin big sagebrush basin wildrye black greasewood bottlebrush squirreltail		10 65 10 5
Zorravista-----	SAND DUNES 6-9" (R023XG049CA)	FAVORABLE NORMAL UNFAVORABLE	1100 700 600	Indian ricegrass basin big sagebrush basin wildrye black greasewood fourwing saltbush littleleaf horsebrush needleandthread rubber rabbitbrush spiny hopsage		35 10 10 5 10 5 10 10 5

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
240: Home Camp-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE	1800	Idaho fescue		25
		NORMAL	1400	antelope bitterbrush		10
		UNFAVORABLE	1000	bluebunch wheatgrass		30
				mountain big sagebrush		5
				needlegrass		25
Newlands-----	COOL LOAM 12-16" (R021XE044CA)	FAVORABLE	2200	Idaho fescue		50
		NORMAL	1800	antelope bitterbrush		5
		UNFAVORABLE	1400	bluegrass		15
				mountain big sagebrush		5
				needlegrass		10
241: Honlak-----	SALINE-SODIC SUBIRRIGATED 6-16" (R023XG058CA)	FAVORABLE	1000	alkaligrass		10
		NORMAL	800	basin wildrye		5
		UNFAVORABLE	600	beardless wildrye		5
				black greasewood		30
				bluegrass		10
				inland saltgrass		25
				rush		5
				western wheatgrass		5
242: Horsecamp-----	CLAY UPLAND 9-16" (R023XF084CA)	FAVORABLE	900	Thurber needlegrass		10
		NORMAL	700	beardless wildrye		10
		UNFAVORABLE	500	big sagebrush		5
				bottlebrush squirreltail		25
				littleleaf horsebrush		10
				rubber rabbitbrush		10
				western wheatgrass		15
243: Horsecamp-----	CLAY UPLAND 9-16" (R023XF084CA)	FAVORABLE	900	Thurber needlegrass		10
		NORMAL	700	beardless wildrye		10
		UNFAVORABLE	500	big sagebrush		5
				bottlebrush squirreltail		25
				littleleaf horsebrush		10
				rubber rabbitbrush		10
				western wheatgrass		15
Brubeck-----	CLAY UPLAND 9-16" (R023XF084CA)	FAVORABLE	900	Thurber needlegrass		10
		NORMAL	700	beardless wildrye		10
		UNFAVORABLE	500	big sagebrush		5
				bottlebrush squirreltail		25
				littleleaf horsebrush		10
				rubber rabbitbrush		10
				western wheatgrass		15
244: Horsecamp-----	CLAY UPLAND 9-16" (R023XF084CA)	FAVORABLE	900	Thurber needlegrass		10
		NORMAL	700	beardless wildrye		10
		UNFAVORABLE	500	big sagebrush		5
				bottlebrush squirreltail		25
				littleleaf horsebrush		10
				rubber rabbitbrush		10
				western wheatgrass		15
Hunnton-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE	1200	Thurber needlegrass		15
		NORMAL	900	Wyoming big sagebrush		5
		UNFAVORABLE	600	antelope bitterbrush		5
				basin wildrye		5
				bluebunch wheatgrass		60
				other perennial forbs		10
				other perennial grasses		10
				other shrubs		10
245: Horsecamp-----	CLAY UPLAND 9-16" (R023XF084CA)	FAVORABLE	900	Thurber needlegrass		10
		NORMAL	700	beardless wildrye		10
		UNFAVORABLE	500	big sagebrush		5
				bottlebrush squirreltail		25
				littleleaf horsebrush		10
				rubber rabbitbrush		10
				western wheatgrass		15
Mahala-----	SHALLOW STONY LOAM 9-12" (R023XF081CA)	FAVORABLE	900	Thurber needlegrass		15
		NORMAL	700	bluebunch wheatgrass		40
		UNFAVORABLE	500	bluegrass		5
				low sagebrush		15

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			lb/acre		Pct	Pct
246: Humboldt-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
247: Humboldt-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
248: Humboldt-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
249: Humboldt-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
250: Hunton-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Thurber needlegrass Wyoming big sagebrush antelope bitterbrush basin wildrye bluebunch wheatgrass other perennial forbs other perennial grasses other shrubs		15 5 5 5 60 10 10 10
Shinnpeak-----	VERY SHALLOW STONY LOAM 9-12" (R023XF087CA)	FAVORABLE NORMAL UNFAVORABLE	600 400 200	Sandberg bluegrass Thurber needlegrass black sagebrush bluebunch wheatgrass bottlebrush squirreltail other perennial forbs other perennial grasses other shrubs		5 20 40 35 5 5 10 5
251: Incy-----	GRANITIC SAND 9-12" (R026XF022CA)	FAVORABLE NORMAL UNFAVORABLE	900 700 600	Indian ricegrass Wyoming big sagebrush antelope bitterbrush arrowleaf balsamroot needleandthread sand dropseed western wheatgrass		20 10 15 5 15 5 5
252: Incy-----	GRANITIC SAND 9-12" (R026XF022CA)	FAVORABLE NORMAL UNFAVORABLE	900 700 600	Indian ricegrass Wyoming big sagebrush antelope bitterbrush arrowleaf balsamroot needleandthread sand dropseed western wheatgrass		20 10 15 5 15 5 5
253: Indiano-----	GRANITIC UPLAND 9-12" (R026XF052CA)	FAVORABLE NORMAL UNFAVORABLE	900 700 600	Indian ricegrass Sandberg bluegrass Thurber needlegrass Wyoming big sagebrush antelope bitterbrush basin wildrye bottlebrush squirreltail other perennial forbs other perennial grasses other shrubs		5 5 20 15 10 10 5 10 5 5
Graufels-----	GRANITIC UPLAND 9-12" (R026XF052CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Anderson peachbrush Wyoming big sagebrush antelope bitterbrush bluebunch wheatgrass green sphedra needlegrass		10 5 15 10 5 50

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
254: Indiano-----	WARM STONY LOAM 12-16" (R021XE179CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1200 900	Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush		15 5 5 70 5
Searles-----	WARM STONY LOAM 12-16" (R021XE179CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1200 900	Thurber needlegrass antelope bitterbrush bluebunch wheatgrass mountain big sagebrush		10 5 70 5
255: Indiano-----	WARM STONY LOAM 12-16" (R021XE179CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1200 900	Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush		15 5 5 70 5
Searles-----	WARM STONY LOAM 12-16" (R021XE179CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1200 900	Thurber needlegrass antelope bitterbrush bluebunch wheatgrass mountain big sagebrush		10 5 70 5
256: Indiano-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE NORMAL UNFAVORABLE	1100 800 600	Thurber needlegrass Wyoming big sagebrush antelope bitterbrush basin wildrye bluebunch wheatgrass other perennial forbs other perennial grasses other shrubs		10 20 10 5 40 5 5 5
Zephan-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Thurber needlegrass Wyoming big sagebrush antelope bitterbrush basin wildrye western wheatgrass		15 5 5 5 60
Duco-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	western juniper western juniper western juniper western juniper western juniper	5 5 5 5 5	
257: Inville-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	manzanita snowbrush ceanothus whitethorn ceanothus	5 5 5	
258: Jauriga-----	COOL LOAM 12-16" (R021XE044CA)	FAVORABLE NORMAL UNFAVORABLE	2200 1800 1400	Idaho fescue antelope bitterbrush bluegrass mountain big sagebrush needlegrass		50 5 15 5 10
259: Jauriga-----	LOAM 12-16" (R021XE176CA)	FAVORABLE NORMAL UNFAVORABLE	2200 1800 1400	Idaho fescue antelope bitterbrush bluebunch wheatgrass mountain big sagebrush needlegrass		30 5 30 5 25
Buckbay-----	LOAM 12-16" (R021XE176CA)	FAVORABLE NORMAL UNFAVORABLE	2200 1800 1400	Idaho fescue antelope bitterbrush bluebunch wheatgrass mountain big sagebrush needlegrass		30 5 30 5 25
Fredonyer-----	VERY STONY LOAM 12-16" (R021XE178CA)	FAVORABLE NORMAL UNFAVORABLE	1500 1000 700	Idaho fescue curl-leaf mountain mahogany mountain big sagebrush		45 30 5

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
260: Keddie-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
261: Keddie-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
262: Ladd-----	COOL LOAM 12-16" (R021XE044CA)	FAVORABLE NORMAL UNFAVORABLE	2200 1800 1400	Idaho fescue antelope bitterbrush bluegrass mountain big sagebrush needlegrass		50 5 15 5 10
263: Ladd-----	COOL LOAM 12-16" (R021XE044CA)	FAVORABLE NORMAL UNFAVORABLE	2200 1800 1400	Idaho fescue antelope bitterbrush bluegrass mountain big sagebrush needlegrass		50 5 15 5 10
Bieber-----	SHALLOW LOAM 12-16" (R021XE184CA)	FAVORABLE NORMAL UNFAVORABLE	700 600 500	Sandberg bluegrass bastardsage bottlebrush squirreltail low sagebrush		20 5 15 20
264: Lakeview-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
265: Lakeview-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
266: Lasco-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	Idaho fescue antelope bitterbrush big sagebrush	5 5 5	
267: Lasco-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	manzanita mountain brome needlegrass snowbrush ceanothus whitethorn ceanothus	5 5 5 5 5	
268: Lasco-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	manzanita mountain brome needlegrass snowbrush ceanothus whitethorn ceanothus	5 5 5 5 5	
269: Lasco-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	manzanita mountain brome needlegrass snowbrush ceanothus whitethorn ceanothus	5 5 5 5 5	
Bonta-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	antelope bitterbrush big sagebrush other perennial grasses	5 15 10	
270: Lieberman-----	SODIC FLAT 5-9" (R023XG046CA)	FAVORABLE NORMAL UNFAVORABLE	700 400 300	black greasewood bottlebrush squirreltail bud sagebrush shadscale		15 5 10 60

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
271: Lieberman-----	SODIC FLAT 6-9" (R023XG046CA)	FAVORABLE NORMAL UNFAVORABLE	700 400 300	black greasewood bottlebrush squirreltail bud sagebrush shadscale		15 5 10 60
Herlong-----	SODIC FLAT 6-9" (R023XG046CA)	FAVORABLE NORMAL UNFAVORABLE	700 500 300	black greasewood bottlebrush squirreltail bud sagebrush shadscale		15 10 10 60
272: Lodico-----	SHALLOW STONY LOAM 9-12" (R023XF081CA)	FAVORABLE NORMAL UNFAVORABLE	1000 700 500	Thurber needlegrass antelope bitterbrush bluebunch wheatgrass low sagebrush		15 5 60 10
273: Longcreek-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush		15 5 5 60 5
Devada-----	SHALLOW STONY LOAM 9-12" (R023XF081CA)	FAVORABLE NORMAL UNFAVORABLE	900 700 500	Thurber needlegrass bluebunch wheatgrass bluegrass low sagebrush		15 30 10 20
Rubble land-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
274: Longcreek-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush		15 5 5 60 5
Devada-----	SHALLOW STONY LOAM 9-12" (R023XF081CA)	FAVORABLE NORMAL UNFAVORABLE	900 700 500	Thurber needlegrass bluebunch wheatgrass bluegrass low sagebrush		15 30 10 20
Rubble land-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
275: Loomis-----	VERY SHALLOW STONY LOAM 9-12" (R023XF087CA)	FAVORABLE NORMAL UNFAVORABLE	600 400 200	Sandberg bluegrass Thurber needlegrass black sagebrush bluebunch wheatgrass bottlebrush squirreltail		5 20 40 35 5
276: Loomis-----	VERY SHALLOW STONY LOAM 9-12" (R023XF087CA)	FAVORABLE NORMAL UNFAVORABLE	600 400 200	Sandberg bluegrass Thurber needlegrass black sagebrush bluebunch wheatgrass bottlebrush squirreltail		5 20 40 35 5
Fivesprings-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush		15 5 5 60 5

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
277: Loomis-----	VERY SHALLOW STONY LOAM 9-12" (R023XF087CA)	FAVORABLE	600	Sandberg bluegrass		5
		NORMAL	400	Thurber needlegrass		20
		UNFAVORABLE	200	black sagebrush		40
				bluebunch wheatgrass		35
				bottlebrush squirreltail		5
Rubble land-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
278: Madeline-----	WARM STONY LOAM 12-16" (R021XE179CA)	FAVORABLE	1800	Thurber needlegrass		15
		NORMAL	1200	antelope bitterbrush		5
		UNFAVORABLE	900	bluebunch wheatgrass		60
				mountain big sagebrush		5
Glean-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE	1800	Idaho fescue		25
		NORMAL	1400	antelope bitterbrush		10
		UNFAVORABLE	1000	bluebunch wheatgrass		30
				mountain big sagebrush		5
				needlegrass		25
Devada-----	---	FAVORABLE	1000	Idaho fescue		5
		NORMAL	700	Thurber needlegrass		15
		UNFAVORABLE	500	antelope bitterbrush		5
				bluebunch wheatgrass		40
				bluegrass		10
				low sagebrush		15
279: Madeline-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE	1800	Idaho fescue		25
		NORMAL	1400	Thurber needlegrass		25
		UNFAVORABLE	1000	antelope bitterbrush		10
				bluebunch wheatgrass		30
				mountain big sagebrush		5
Sumine-----	LOAM 12-16" (R021XE176CA)	FAVORABLE	1500	Idaho fescue		5
		NORMAL	1100	Thurber needlegrass		5
		UNFAVORABLE	800	basin wildrye		10
				bluebunch wheatgrass		50
				mountain big sagebrush		10
				mountain brome		5
				oceanspray		5
280: Massack-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
281: Mazuma-----	SALINE-SODIC FLAT 6-9" (R023XG050CA)	FAVORABLE	500	black greasewood		50
		NORMAL	400	bottlebrush squirreltail		5
		UNFAVORABLE	300	inland saltgrass		10
				seepweed		5
282: Mazuma-----	SALINE-SODIC FLAT 6-9" (R023XG050CA)	FAVORABLE	500	basin wildrye		5
		NORMAL	400	black greasewood		50
		UNFAVORABLE	300	bottlebrush squirreltail		5
				seepweed		5
				shadscale		10
283: McConnel-----	GRANITIC UPLAND 9-12" (R026XF052CA)	FAVORABLE	1200	Indian ricegrass		5
		NORMAL	800	Thurber needlegrass		20
		UNFAVORABLE	600	Wyoming big sagebrush		20
				bluebunch wheatgrass		10
				bottlebrush squirreltail		5
				spiny hopsage		5
				yellow rabbitbrush		5
Mottsville-----	GRANITIC FAN 9-12" (R026XF051CA)	FAVORABLE	1500	Indian ricegrass		20
		NORMAL	1100	antelope bitterbrush		15
		UNFAVORABLE	900	basin big sagebrush		10
				bottlebrush squirreltail		5
				desert needlegrass		5
				desert peach		10
				needleandthread		20

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
284: Mcdermott-----	SODIC LOAM 6-9" (R023XG048CA)	FAVORABLE	1100	basin big sagebrush		10
		NORMAL	900	basin wildrye		65
		UNFAVORABLE	600	black greasewood		10
				bottlebrush squirreltail		5
285: Modoc-----	LOAMY TERRACE 12-16" (R021XE186CA)	FAVORABLE	1800	Idaho fescue		10
		NORMAL	1500	basin big sagebrush		10
		UNFAVORABLE	1200	basin wildrye		5
				bluebunch wheatgrass		25
Truax-----	LOAMY TERRACE 12-16" (R021XE186CA)	FAVORABLE	2000	Thurber needlegrass		10
		NORMAL	1500	antelope bitterbrush		5
		UNFAVORABLE	1000	basin big sagebrush		5
				basin wildrye		50
				bottlebrush squirreltail		10
				needleandthread		10
286: Mottsville-----	GRANITIC FAN 12-16" (R021XE181CA)	FAVORABLE	2500	Indian ricegrass		15
		NORMAL	1800	antelope bitterbrush		20
		UNFAVORABLE	1200	bottlebrush squirreltail		5
				mountain big sagebrush		10
				needleandthread		20
				other perennial forbs		5
				other perennial grasses		5
				other shrubs		5
287: Mottsville-----	GRANITIC FAN 12-16" (R021XE181CA)	FAVORABLE	2500	Indian ricegrass		15
		NORMAL	1800	antelope bitterbrush		20
		UNFAVORABLE	1200	bottlebrush squirreltail		5
				mountain big sagebrush		10
				needleandthread		20
				other perennial forbs		5
				other perennial grasses		5
				other shrubs		5
288: Mottsville-----	GRANITIC FAN 9-12" (R026XF051CA)	FAVORABLE	1500	Indian ricegrass		20
		NORMAL	1100	antelope bitterbrush		15
		UNFAVORABLE	900	basin big sagebrush		10
				bottlebrush squirreltail		5
				desert needlegrass		5
				desert peach		10
				needleandthread		20
289: Mottsville-----	GRANITIC FAN 9-12" (R026XF051CA)	FAVORABLE	1500	Indian ricegrass		20
		NORMAL	1100	antelope bitterbrush		15
		UNFAVORABLE	900	basin big sagebrush		10
				bottlebrush squirreltail		5
				desert needlegrass		5
				desert peach		10
				needleandthread		20
290: Mottsville-----	GRANITIC FAN 12-16" (R021XE181CA)	FAVORABLE	2500	Indian ricegrass		15
		NORMAL	1800	antelope bitterbrush		20
		UNFAVORABLE	1200	bottlebrush squirreltail		5
				mountain big sagebrush		10
				needleandthread		20
				other perennial forbs		5
				other perennial grasses		5
				other shrubs		5
291: Mottsville-----	GRANITIC FAN 12-16" (R021XE181CA)	FAVORABLE	2500	Indian ricegrass		15
		NORMAL	1800	antelope bitterbrush		20
		UNFAVORABLE	1200	bottlebrush squirreltail		5
				mountain big sagebrush		10
				needleandthread		20
				other perennial forbs		5
				other perennial grasses		5
				other shrubs		5

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
292: Mottsville-----	GRANITIC FAN 9-12" (R026XF051CA)	FAVORABLE	1500	Indian ricegrass		20
		NORMAL	1100	antelope bitterbrush		15
		UNFAVORABLE	900	basin big sagebrush		10
				bottlebrush squirreltail		5
				desert needlegrass		5
				desert peach		10
				needleandthread		20
Galeppi-----	GRANITIC UPLAND 9-12" (R026XF052CA)	FAVORABLE	1200	Anderson peachbrush		5
		NORMAL	900	Wyoming big sagebrush		5
		UNFAVORABLE	600	antelope bitterbrush		15
				bluebunch wheatgrass		10
				green ephedra		5
				needlegrass		50
				other perennial grasses		2
293: Mountmed-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
294: Mountmed-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
295: Mountmed-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
296: Newlands-----	COOL LOAM 12-16" (R021XE044CA)	FAVORABLE	2200	Idaho fescue		50
		NORMAL	1800	antelope bitterbrush		5
		UNFAVORABLE	1400	bluegrass		15
				mountain big sagebrush		5
				needlegrass		10
Hapgood-----	COOL LOAM 12-16" (R021XE044CA)	FAVORABLE	1550	Idaho fescue		20
		NORMAL	1150	Thurber needlegrass		5
		UNFAVORABLE	750	antelope bitterbrush		10
				arrowleaf balsamroot		5
				basin wildrye		10
				bluebunch wheatgrass		15
				lupine		5
				mountain big sagebrush		10
297: Ninemile-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE	1000	Idaho fescue		35
		NORMAL	700	Thurber needlegrass		5
		UNFAVORABLE	400	antelope bitterbrush		5
				balsamroot		5
				bluebunch wheatgrass		15
				bluegrass		10
				bottlebrush squirreltail		5
				low sagebrush		20
Home Camp-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE	1800	Idaho fescue		25
		NORMAL	1400	antelope bitterbrush		10
		UNFAVORABLE	1000	bluebunch wheatgrass		30
				mountain big sagebrush		5
				needlegrass		25
Newlands-----	COOL LOAM 12-16" (R021XE044CA)	FAVORABLE	2200	Idaho fescue		50
		NORMAL	1800	antelope bitterbrush		5
		UNFAVORABLE	1400	bluegrass		15
				mountain big sagebrush		5
				needlegrass		10

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
298: Ninemile-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE NORMAL UNFAVORABLE	1000 700 400	Idaho fescue Thurber needlegrass antelope bitterbrush balsamroot bluebunch wheatgrass bluegrass bottlebrush squirreltail low sagebrush		35 5 5 5 15 10 5 20
Petescreek-----	COOL LOAM 12-16" (R021XE044CA)	FAVORABLE NORMAL UNFAVORABLE	2200 1800 1400	Idaho fescue antelope bitterbrush bluegrass mountain big sagebrush needlegrass		50 5 15 5 10
Fiddler-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1000 800 600	Idaho fescue Nevada bluegrass Sandberg bluegrass Thurber needlegrass antelope bitterbrush arrowleaf balsamroot bluebunch wheatgrass bottlebrush squirreltail mountain big sagebrush rabbitbrush		15 10 5 5 5 5 10 5 10 5
299: Ninemile-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE NORMAL UNFAVORABLE	1000 700 400	Idaho fescue Thurber needlegrass antelope bitterbrush balsamroot bluebunch wheatgrass bluegrass bottlebrush squirreltail low sagebrush		35 5 5 5 15 10 5 20
Weste-----		FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
300: Observation----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1400 1000	Idaho fescue antelope bitterbrush bluebunch wheatgrass mountain big sagebrush needlegrass		25 10 30 5 25
Searles-----	WARM STONY LOAM 12-16" (R021XE179CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1200 900	Thurber needlegrass antelope bitterbrush bluebunch wheatgrass mountain big sagebrush		10 5 70 5
Madeline-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1400 1000	Idaho fescue Thurber needlegrass antelope bitterbrush bluebunch wheatgrass mountain big sagebrush		25 25 10 30 5
301: Observation----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1400 1000	Idaho fescue antelope bitterbrush bluebunch wheatgrass mountain big sagebrush needlegrass		25 10 30 5 25
Searles-----	WARM STONY LOAM 12-16" (R021XE179CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1200 900	Thurber needlegrass antelope bitterbrush bluebunch wheatgrass mountain big sagebrush		10 5 70 5
Madeline-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1400 1000	Idaho fescue Thurber needlegrass antelope bitterbrush bluebunch wheatgrass mountain big sagebrush		25 25 10 30 5

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/aete		Pct	Pct
302: Orhood-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE	1800	Idaho fescue		25
		NORMAL	1400	Lemmon needlegrass		5
		UNFAVORABLE	1000	Sandberg bluegrass		5
				Thurber needlegrass		10
				antelope bitterbrush		5
				arrowleaf balsamroot		5
				bluebunch wheatgrass		30
				mountain big sagebrush		5
				rabbitbrush		5
303: Orr-----	GRANITIC FAN 9-12" (R026XF051CA)	FAVORABLE	1500	Anderson peachbrush		10
		NORMAL	1200	Indian ricegrass		25
		UNFAVORABLE	900	Wyoming big sagebrush		5
				antelope bitterbrush		15
				beardless wildrye		5
				needleandthread		30
				yellow rabbitbrush		10
304: Outland-----		FAVORABLE	---	Sierra chinkapin	5	
		NORMAL	---	antelope bitterbrush	5	
		UNFAVORABLE	---	greenleaf manzanita	5	
				sharpleaf snowberry	5	
				snowberry	5	
				snowbrush ceanothus	5	
				squawcarpet	5	
				whitethorn ceanothus	5	
305: Outland-----		FAVORABLE	---	Sierra chinkapin	5	
		NORMAL	---	greenleaf manzanita	5	
		UNFAVORABLE	---	sharpleaf snowberry	5	
				snowberry	5	
				snowbrush ceanothus	5	
				squawcarpet	5	
				whitethorn ceanothus	5	
Outland-----		FAVORABLE	---	Sierra chinkapin	5	
		NORMAL	---	antelope bitterbrush	5	
		UNFAVORABLE	---	greenleaf manzanita	5	
				sharpleaf snowberry	5	
				snowberry	5	
				snowbrush ceanothus	5	
				squawcarpet	5	
				whitethorn ceanothus	5	
306: Outland-----		FAVORABLE	---	Sierra chinkapin	5	
		NORMAL	---	antelope bitterbrush	5	
		UNFAVORABLE	---	greenleaf manzanita	5	
				sharpleaf snowberry	5	
				snowberry	5	
				snowbrush ceanothus	5	
				squawcarpet	5	
				whitethorn ceanothus	5	
Penstock-----		FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
307: Outland-----		FAVORABLE	---	Sierra chinkapin	5	
		NORMAL	---	antelope bitterbrush	5	
		UNFAVORABLE	---	greenleaf manzanita	5	
				sharpleaf snowberry	5	
				snowberry	5	
				snowbrush ceanothus	5	
				squawcarpet	5	
				whitethorn ceanothus	5	
Penstock-----		FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
308: Papeek-----	---	FAVORABLE	---	Idaho fescue	5	
		NORMAL	---	antelope bitterbrush	5	
		UNFAVORABLE	---	mountain big sagebrush	5	
309: Papeek-----	---	FAVORABLE	---	Idaho fescue	5	
		NORMAL	---	antelope bitterbrush	5	
		UNFAVORABLE	---	mountain big sagebrush	5	
310: Penstock-----	---	FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
Deadwood-----	---	FAVORABLE	---	California nutmeg	5	
		NORMAL	---	greenleaf manzanita	5	
		UNFAVORABLE	---	pinemat manzanita	5	
311: Penstock-----	---	FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
Deadwood-----	---	FAVORABLE	---	California nutmeg	5	
		NORMAL	---	greenleaf manzanita	5	
		UNFAVORABLE	---	pinemat manzanita	5	
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
312: Penstock-----	---	FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				sharpleaf snowberry	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
Scaribou-----	---	FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				sharpleaf snowberry	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
313: Penstock-----	---	FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				sharpleaf snowberry	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
Scaribou-----	---	FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				sharpleaf snowberry	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
314: Pequop-----	COOL STONY LOAM 12-16" (R021XE187CA)	FAVORABLE	1800	Idaho fescue		50
		NORMAL	1500	antelope bitterbrush		10
		UNFAVORABLE	1100	bluebunch wheatgrass		10
				bluegrass		15
				mountain big sagebrush		5
				needlegrass		10
Observation----	COOL STONY LOAM 12-16" (R021XE187CA)	FAVORABLE	1800	Idaho fescue		50
		NORMAL	1500	antelope bitterbrush		10
		UNFAVORABLE	1000	bluebunch wheatgrass		10
				bluegrass		15
				mountain big sagebrush		5
				needlegrass		10

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
315: Pequop-----	COOL STONY LOAM 12-16" (R021XE187CA)	FAVORABLE	1800	Idaho fescue		50
		NORMAL	1500	antelope bitterbrush		10
		UNFAVORABLE	1100	bluebunch wheatgrass		10
				bluegrass		15
				mountain big sagebrush		5
				needlegrass		10
Observation-----	COOL STONY LOAM 12-16" (R021XE187CA)	FAVORABLE	1800	Idaho fescue		50
		NORMAL	1500	antelope bitterbrush		10
		UNFAVORABLE	1000	bluebunch wheatgrass		10
				bluegrass		15
				mountain big sagebrush		5
				needlegrass		10
316: Petescreek-----	LOAM 12-16" (R021XE176CA)	FAVORABLE	2200	Idaho fescue		30
		NORMAL	1800	antelope bitterbrush		5
		UNFAVORABLE	1400	bluebunch wheatgrass		30
				mountain big sagebrush		5
				needlegrass		25
Bucklake-----	WARM STONY LOAM 12-16" (R021XE179CA)	FAVORABLE	1800	Thurber needlegrass		15
		NORMAL	1200	antelope bitterbrush		5
		UNFAVORABLE	900	bluebunch wheatgrass		70
				mountain big sagebrush		5
				rabbitbrush		5
Devada-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE	1000	Idaho fescue		5
		NORMAL	700	Thurber needlegrass		15
		UNFAVORABLE	500	antelope bitterbrush		5
				bluebunch wheatgrass		40
				bluegrass		10
				low sagebrush		15
317: Petescreek-----	LOAM 12-16" (R021XE176CA)	FAVORABLE	2200	Idaho fescue		30
		NORMAL	1800	antelope bitterbrush		5
		UNFAVORABLE	1400	bluebunch wheatgrass		30
				mountain big sagebrush		5
				needlegrass		25
Devada-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE	1000	Idaho fescue		5
		NORMAL	700	Thurber needlegrass		15
		UNFAVORABLE	500	antelope bitterbrush		5
				bluebunch wheatgrass		40
				bluegrass		10
				low sagebrush		15
Searles-----	WARM STONY LOAM 12-16" (R021XE179CA)	FAVORABLE	1800	Thurber needlegrass		10
		NORMAL	1200	antelope bitterbrush		5
		UNFAVORABLE	900	bluebunch wheatgrass		70
				mountain big sagebrush		5
318: Petescreek-----	LOAM 12-16" (R021XE176CA)	FAVORABLE	2200	Idaho fescue		30
		NORMAL	1800	antelope bitterbrush		5
		UNFAVORABLE	1400	bluebunch wheatgrass		30
				mountain big sagebrush		5
				needlegrass		25
Devada-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE	1000	Idaho fescue		5
		NORMAL	700	Thurber needlegrass		15
		UNFAVORABLE	500	antelope bitterbrush		5
				bluebunch wheatgrass		40
				bluegrass		10
				low sagebrush		15
Searles-----	WARM STONY LOAM 12-16" (R021XE179CA)	FAVORABLE	1800	Thurber needlegrass		10
		NORMAL	1200	antelope bitterbrush		5
		UNFAVORABLE	900	bluebunch wheatgrass		70
				mountain big sagebrush		5

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
319: Petescreek-----	COOL LOAM 12-16" (R021XE044CA)	FAVORABLE NORMAL UNFAVORABLE	2200 1800 1400	Idaho fescue antelope bitterbrush bluegrass mountain big sagebrush needlegrass		50 5 15 5 10
Fredonyer-----	VERY STONY LOAM 12-16" (R021XE178CA)	FAVORABLE NORMAL UNFAVORABLE	1500 1000 700	Idaho fescue curl-leaf mountain mahogany mountain big sagebrush		45 30 5
320: Petescreek-----	COOL LOAM 12-16" (R021XE044CA)	FAVORABLE NORMAL UNFAVORABLE	2200 1800 1400	Idaho fescue antelope bitterbrush bluegrass mountain big sagebrush needlegrass		50 5 15 5 10
Fredonyer-----	VERY STONY LOAM 12-16" (R021XE178CA)	FAVORABLE NORMAL UNFAVORABLE	1500 1000 700	Idaho fescue curl-leaf mountain mahogany mountain big sagebrush		45 30 5
321: Petescreek-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1400 1000	Idaho fescue antelope bitterbrush bluebunch wheatgrass mountain big sagebrush needlegrass		25 10 30 5 25
Orhood-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1400 1000	Idaho fescue Lemmon needlegrass Sandberg bluegrass Thurber needlegrass antelope bitterbrush arrowleaf balsamroot bluebunch wheatgrass mountain big sagebrush rabbitbrush		25 5 5 10 5 5 30 5 5
Fredonyer-----	VERY STONY LOAM 12-16" (R021XE178CA)	FAVORABLE NORMAL UNFAVORABLE	1500 1000 700	Idaho fescue curl-leaf mountain mahogany mountain big sagebrush		45 30 5
322: Petescreek-----	COOL LOAM 12-16" (R021XE044CA)	FAVORABLE NORMAL UNFAVORABLE	2200 1800 1400	Idaho fescue antelope bitterbrush bluegrass mountain big sagebrush needlegrass		50 5 15 5 10
Searles-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1400 1000	Idaho fescue Thurber needlegrass antelope bitterbrush bluebunch wheatgrass mountain big sagebrush		25 25 10 30 5
323: Petescreek-----	COOL LOAM 12-16" (R021XE044CA)	FAVORABLE NORMAL UNFAVORABLE	2200 1800 1400	Idaho fescue antelope bitterbrush bluegrass mountain big sagebrush needlegrass		50 5 15 5 10
Searles-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1400 1000	Idaho fescue Thurber needlegrass antelope bitterbrush bluebunch wheatgrass mountain big sagebrush		25 25 10 30 5
Orhood-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1800 1400 1000	Idaho fescue Lemmon needlegrass Sandberg bluegrass Thurber needlegrass antelope bitterbrush arrowleaf balsamroot bluebunch wheatgrass mountain big sagebrush rabbitbrush		25 5 5 10 5 5 30 5 5

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
324: Pit-----	CLAY FLOODPLAIN 9-16" (R023XF092CA)	FAVORABLE NORMAL UNFAVORABLE	1400 1100 800	Nevada bluegrass beardless wildrye silver sagebrush western wheatgrass		75 5 10 5
325: Pits-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Dumps-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
326: Playas-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
327: Plinco-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
328: Plinco-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
329: Puls-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE NORMAL UNFAVORABLE	1000 700 500	Idaho fescue Thurber needlegrass antelope bitterbrush bluebunch wheatgrass bluegrass low sagebrush		15 15 5 40 10 10
330: Puls-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE NORMAL UNFAVORABLE	1000 700 500	Idaho fescue Thurber needlegrass antelope bitterbrush bluebunch wheatgrass bluegrass low sagebrush		15 15 5 40 10 10
Ninekar-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE NORMAL UNFAVORABLE	1000 700 500	Idaho fescue Nevada bluegrass Thurber needlegrass antelope bitterbrush beardless wildrye bluebunch wheatgrass low sagebrush		15 10 15 5 5 40 10
331: Puls-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE NORMAL UNFAVORABLE	1000 700 500	Idaho fescue Thurber needlegrass antelope bitterbrush bluebunch wheatgrass bluegrass low sagebrush		15 15 5 40 10 10
Tunnison-----	SHALLOW CLAY 9-16" (R023XF093CA)	FAVORABLE NORMAL UNFAVORABLE	900 700 500	Thurber needlegrass beardless wildrye big sagebrush bottlebrush squirreltail littleleaf horsebrush rubber rabbitbrush western wheatgrass		10 10 10 25 10 10 15
332: Quartzburg-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Scaribou-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	manzanita mountain brome needlegrass snowbrush ceanothus whitethorn ceanothus	5 5 5 5 5	

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
333: Ravendale-----	CLAY FAN 12-16" (R021XE189CA)	FAVORABLE	1400	Nevada bluegrass		75
		NORMAL	1100	basin big sagebrush		5
		UNFAVORABLE	800	beardless wildrye		5
				rubber rabbitbrush		5
				western wheatgrass		5
334: Ravendale-----	CLAY FLOODPLAIN 9-16" (R023XF092CA)	FAVORABLE	1400	Nevada bluegrass		75
		NORMAL	1100	beardless wildrye		5
		UNFAVORABLE	800	silver sagebrush		10
				western wheatgrass		5
335: Ravendale-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
336: Ravendale-----	SILTY CLAY FLAT 9-12" (R023XF085CA)	FAVORABLE	1000	big sagebrush		25
		NORMAL	700	black greasewood		30
		UNFAVORABLE	400	bottlebrush squirreltail		10
				saltbush		5
				spiny hopsage		15
337: Redriver-----	---	FAVORABLE	---	greenleaf manzanita	15	
		NORMAL	---	needlegrass	10	
		UNFAVORABLE	---	serviceberry	5	
				snowberry	5	
				squawcarpet	35	
				whitethorn ceanothus	25	
Gerle-----	---	FAVORABLE	---	chinkapin	5	
		NORMAL	---	currant	5	
		UNFAVORABLE	---	huckleberry oak	5	
				western brackenfern	5	
				whitethorn ceanothus	5	
338: Redriver-----	---	FAVORABLE	---	greenleaf manzanita	15	
		NORMAL	---	needlegrass	10	
		UNFAVORABLE	---	serviceberry	5	
				snowberry	5	
				squawcarpet	35	
				whitethorn ceanothus	25	
Weste-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	squawcarpet	5	
		UNFAVORABLE	---	whitethorn ceanothus	5	
339: Redriver-----	---	FAVORABLE	---	greenleaf manzanita	15	
		NORMAL	---	needlegrass	10	
		UNFAVORABLE	---	serviceberry	5	
				snowberry	5	
				squawcarpet	35	
				whitethorn ceanothus	25	
Woodwest-----	---	FAVORABLE	---	greenleaf manzanita	25	
		NORMAL	---	needlegrass	10	
		UNFAVORABLE	---	rabbitbrush	10	
				squawcarpet	25	
Wafle-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	needlegrass	5	
		UNFAVORABLE	---	rabbitbrush	5	
				squawcarpet	5	
				whitethorn ceanothus	5	
				wildrye	5	

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
340: Rices-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
341: Rose Creek-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
342: Rose Creek-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
343: Rubble land-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Fiddler-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE NORMAL UNFAVORABLE	1000 800 600	Idaho fescue Nevada bluegrass Sandberg bluegrass Thurber needlegrass antelope bitterbrush arrowleaf balsamroot bluebunch wheatgrass bottlebrush squirreltail mountain big sagebrush rabbitbrush		15 10 5 5 5 5 10 5 10 5
344: Rubble land-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Longcreek-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush		15 5 5 60 5
Fivesprings-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE NORMAL UNFAVORABLE	1200 900 600	Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush		15 5 5 60 5
345: Rubble land-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Rock outcrop-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
346: Rubble land-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Weste-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	greenleaf manzanita squawcarpet whitethorn ceanothus	5 5 5	

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
347: Saddlerock-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
348: Saddlerock-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
349: Saddlerock-----	LOAMY BOTTOM 9-16" (R023XF088CA)	FAVORABLE NORMAL UNFAVORABLE	6000 4500 2000	basin big sagebrush basin wildrye		5 60
350: Saddlerock-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Yobe-----	SALINE-SODIC SUBIRRIGATED 6-16" (R023XG058CA)	FAVORABLE NORMAL UNFAVORABLE	2400 1700 1000	alkaligrass basin wildrye black greasewood bluegrass inland saltgrass rush western wheatgrass		10 5 30 10 25 5 5
Termo-----	SODIC FLAT 9-12" (R023XF089CA)	FAVORABLE NORMAL UNFAVORABLE	900 700 600	Sandberg bluegrass basin wildrye big sagebrush black greasewood bottlebrush squirreltail rubber rabbitbrush shadscale spiny hopsage		5 15 25 25 5 5 5 5
351: Said-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	Columbia needlegrass Idaho fescue manzanita mountain big sagebrush snowberry squawcarpet whitethorn ceanothus	5 5 25 10 10 10 15	
352: Said-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	Columbia needlegrass Idaho fescue manzanita mountain big sagebrush snowberry squawcarpet whitethorn ceanothus	5 5 25 10 10 10 15	
Fraval-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	Columbia needlegrass Idaho fescue bottlebrush squirreltail curl-leaf mountain mahogany mountain big sagebrush sedge	5 30 5 5 35 5	
353: Said-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---	Columbia needlegrass Idaho fescue manzanita mountain big sagebrush snowberry squawcarpet whitethorn ceanothus	5 5 25 10 10 10 15	
Ninemile-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE NORMAL UNFAVORABLE	1000 700 400	Idaho fescue Thurber needlegrass antelope bitterbrush balsamroot bluebunch wheatgrass bluegrass bottlebrush squirreltail low sagebrush		35 5 5 5 15 10 5 20

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
354: Scaribou-----	---	FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
355: Scaribou-----	---	FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
Penstock-----	---	FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
356: Searles-----	LOAM 12-16" (R021XE176CA)	FAVORABLE	2200	Idaho fescue		30
		NORMAL	1800	antelope bitterbrush		5
		UNFAVORABLE	1400	bluebunch wheatgrass		30
				needlegrass		25
Devada-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE	1000	Idaho fescue		5
		NORMAL	700	Thurber needlegrass		15
		UNFAVORABLE	500	antelope bitterbrush		5
				bluebunch wheatgrass		40
				bluegrass		10
				low sagebrush		15
Fivesprings----	WARM STONY LOAM 12-16" (R021XE179CA)	FAVORABLE	1800	Thurber needlegrass		15
		NORMAL	1200	antelope bitterbrush		5
		UNFAVORABLE	900	bluebunch wheatgrass		70
				mountain big sagebrush		5
357: Searles-----	WARM STONY LOAM 12-16" (R021XE179CA)	FAVORABLE	1800	Thurber needlegrass		10
		NORMAL	1200	antelope bitterbrush		5
		UNFAVORABLE	900	bluebunch wheatgrass		70
				mountain big sagebrush		5
Devada-----	SHALLOW STONY LOAM 9-12" (R023XF081CA)	FAVORABLE	900	Thurber needlegrass		15
		NORMAL	700	bluebunch wheatgrass		30
		UNFAVORABLE	500	bluegrass		10
				low sagebrush		20
Rubble land-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
358: Searles-----	WARM STONY LOAM 12-16" (R021XE179CA)	FAVORABLE	1800	Thurber needlegrass		10
		NORMAL	1200	antelope bitterbrush		5
		UNFAVORABLE	900	bluebunch wheatgrass		70
				mountain big sagebrush		5
Glean-----	LOAM 12-16" (R021XE176CA)	FAVORABLE	2000	Idaho fescue		30
		NORMAL	1800	antelope bitterbrush		5
		UNFAVORABLE	1400	bluebunch wheatgrass		30
				mountain big sagebrush		5
				needlegrass		25
359: Searles-----	WARM STONY LOAM 12-16" (R021XE179CA)	FAVORABLE	1800	Thurber needlegrass		10
		NORMAL	1200	antelope bitterbrush		5
		UNFAVORABLE	900	bluebunch wheatgrass		70
				mountain big sagebrush		5
Glean-----	LOAM 12-16" (R021XE176CA)	FAVORABLE	2000	Idaho fescue		30
		NORMAL	1800	antelope bitterbrush		5
		UNFAVORABLE	1400	bluebunch wheatgrass		30
				mountain big sagebrush		5
				needlegrass		25

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
360: Searles-----	WARM STONY LOAM 12-16" (R021XE179CA)	FAVORABLE	1800	Thurber needlegrass		10
		NORMAL	1200	antelope bitterbrush		5
		UNFAVORABLE	900	bluebunch wheatgrass		70
				mountain big sagebrush		5
Orhood-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE	1800	Idaho fescue		25
		NORMAL	1400	Lemmon needlegrass		5
		UNFAVORABLE	1000	Sandberg bluegrass		5
				Thurber needlegrass		10
				antelope bitterbrush		5
				arrowleaf balsamroot		5
				bluebunch wheatgrass		30
				mountain big sagebrush		5
				rabbitbrush		5
Devada-----	SHALLOW STONY LOAM 9-12" (R023XF081CA)	FAVORABLE	900	Thurber needlegrass		15
		NORMAL	700	bluebunch wheatgrass		30
		UNFAVORABLE	500	bluegrass		10
				low sagebrush		20
361: Shinnpeak-----	VERY SHALLOW STONY LOAM 9-12" (R023XF087CA)	FAVORABLE	600	Sandberg bluegrass		5
		NORMAL	400	Thurber needlegrass		20
		UNFAVORABLE	200	black sagebrush		40
				bluebunch wheatgrass		35
				bottlebrush squirreltail		5
				other perennial forbs		5
				other perennial grasses		10
				other shrubs		5
362: Smocreek-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
363: Smocreek-----	LOAMY BOTTOM 9-16" (R023XF088CA)	FAVORABLE	6000	basin big sagebrush		5
		NORMAL	4500	basin wildrye		60
		UNFAVORABLE	2000			
364: Southpac-----	---	FAVORABLE	---	antelope bitterbrush	50	
		NORMAL	---	deltoid balsamroot	5	
		UNFAVORABLE	---	squawcarpet	25	
				wooly wyethia	5	
365: Springmeyer-----	LOAMY TERRACE 12-16" (R021XE186CA)	FAVORABLE	2000	Thurber needlegrass		20
		NORMAL	1500	antelope bitterbrush		5
		UNFAVORABLE	1000	basin wildrye		50
				big sagebrush		15
				bottlebrush squirreltail		5
				other annual forbs		5
				other perennial forbs		5
				other perennial grasses		5
				other shrubs		5
				yellow rabbitbrush		5

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
366: Springmeyer-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
367: Stacy-----	LOAMY BOTTOM 6-9" (R023XG051CA)	FAVORABLE NORMAL UNFAVORABLE	2500 2000 1500	basin big sagebrush basin wildrye black greasewood		10 65 10
368: Standish-----	SALINE-SODIC LOAM 6-12" (R023XG059CA)	FAVORABLE NORMAL UNFAVORABLE	1100 900 600	basin big sagebrush basin wildrye black greasewood inland saltgrass rabbitbrush		5 55 5 15 10
369: Stiles-----	SODIC LOAM 6-9" (R023XG048CA)	FAVORABLE NORMAL UNFAVORABLE	1100 900 600	basin big sagebrush basin wildrye black greasewood bottlebrush squirreltail		10 65 10 5
370: Sumine-----	WARM STONY LOAM 12-16" (R021XE179CA)	FAVORABLE NORMAL UNFAVORABLE	1000 800 600	Idaho fescue Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush		5 5 10 5 30 10
Softscrabble----	LOAM 12-16" (R021XE176CA)	FAVORABLE NORMAL UNFAVORABLE	1500 1000 800	Idaho fescue Thurber needlegrass antelope bitterbrush basin wildrye bluebunch wheatgrass mountain big sagebrush snowberry western needlegrass		35 5 10 5 20 15 5 5
Hutchley-----	MOUNTAIN RIDGES 12-16" (R021XE191CA)	FAVORABLE NORMAL UNFAVORABLE	750 600 350	Nevada bluegrass Sandberg bluegrass arrowleaf balsamroot bluebunch wheatgrass bottlebrush squirreltail longleaf hawksbeard low sagebrush lupine other perennial forbs other perennial grasses other shrubs		10 5 5 35 5 5 15 5 5 5 5
371: Susanville-----	LOAMY BOTTOM 6-9" (R023XG051CA)	FAVORABLE NORMAL UNFAVORABLE	2500 2000 1500	basin big sagebrush basin wildrye black greasewood		10 65 10
372: Susanville-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Smocreek-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
373: Swainow-----	---	FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
		FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	pipsissewa	5	
		UNFAVORABLE	---	sedge	5	
				serviceberry	5	
				snowberry	5	
				squawcarpet	5	
				swamp carex	5	
				whitethorn ceanothus	5	
		FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
374: Swainow-----	---	FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
		FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	pipsissewa	5	
		UNFAVORABLE	---	sedge	5	
				serviceberry	5	
				snowberry	5	
				squawcarpet	5	
				swamp carex	5	
				whitethorn ceanothus	5	
		FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
375: Swainow-----	---	FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
		FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	pipsissewa	5	
		UNFAVORABLE	---	sedge	5	
				serviceberry	5	
				snowberry	5	
				squawcarpet	5	
				swamp carex	5	
				whitethorn ceanothus	5	
		FAVORABLE	---	manzanita	15	
		NORMAL	---	needlegrass	10	
		UNFAVORABLE	---	serviceberry	5	
376: Swainow-----	---	FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
		FAVORABLE	---	greenleaf manzanita	15	
		NORMAL	---	needlegrass	10	
		UNFAVORABLE	---	serviceberry	5	
				snowberry	5	
				squawcarpet	35	
				whitethorn ceanothus	25	
		FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
377: Swainow-----	---	FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
		FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	pipsissewa	5	
		UNFAVORABLE	---	sedge	5	
				serviceberry	5	
				snowberry	5	
				squawcarpet	5	
				swamp carex	5	
				whitethorn ceanothus	5	
		FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
378: Swainow-----	---	FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
		FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	pipsissewa	5	
		UNFAVORABLE	---	sedge	5	
				serviceberry	5	
				snowberry	5	
				squawcarpet	5	
				swamp carex	5	
				whitethorn ceanothus	5	
		FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
					Pct	Pct
			Lb/acre			
378:						
Tahand-----	---	FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
Swainow-----	---	FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
Almanor-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	pipsissewa	5	
		UNFAVORABLE	---	sedge	5	
				serviceberry	5	
				snowberry	5	
				squawcarpet	5	
				swamp carex	5	
				whitethorn ceanothus	5	
379:						
Termo-----	SILTY CLAY FLAT 9-12" (R023XF085CA)	FAVORABLE	1000	Nevada bluegrass		5
		NORMAL	700	big sagebrush		25
		UNFAVORABLE	400	black greasewood		30
				bottlebrush squirreltail		10
				saltbush		5
				spiny hopsage		15
Biscaro-----	SODIC FLAT 9-12" (R023XF089CA)	FAVORABLE	900	Sandberg bluegrass		5
		NORMAL	700	basin wildrye		15
		UNFAVORABLE	600	big sagebrush		25
				black greasewood		25
				bottlebrush squirreltail		5
				rubber rabbitbrush		5
				shadscale		5
				spiny hopsage		5
380:						
Termo-----	SILTY SODIC FLAT 12-16" (R021XE192CA)	FAVORABLE	1000	Nevada bluegrass		35
		NORMAL	800	basin wildrye		35
		UNFAVORABLE	600	big sagebrush		5
				black greasewood		5
				rubber rabbitbrush		5
				spiny hopsage		5
Playas-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
381:						
Termo-----	SODIC FLAT 9-12" (R023XF089CA)	FAVORABLE	900	Sandberg bluegrass		5
		NORMAL	700	basin wildrye		15
		UNFAVORABLE	600	big sagebrush		25
				black greasewood		25
				bottlebrush squirreltail		5
				rubber rabbitbrush		5
				shadscale		5
				spiny hopsage		5
Springmeyer----	LOAMY UPLAND 9-12" (R023XF091CA)	FAVORABLE	1200	Thurber needlegrass		15
		NORMAL	900	basin wildrye		30
		UNFAVORABLE	600	big sagebrush		10
				needleandthread		15
Smocreek-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry		Forest	Range
			weight			
			Lb/acre		Pct	Pct
382: Toiyabe-----		FAVORABLE	---	Nevada bluegrass	5	
		NORMAL	---	Thurber needlegrass	5	
		UNFAVORABLE	---	antelope bitterbrush	5	
				big sagebrush	5	
				bottlebrush squirreltail	5	
				other perennial forbs	5	
				other perennial grasses	5	
				other shrubs	5	
				penstemon	5	
				pointleaf manzanita	5	
				snowberry	5	
				snowbrush ceanothus	5	
Lasco-----		FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
Quartzburg-----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
383: Toiyabe-----		FAVORABLE	---	Nevada bluegrass	5	
		NORMAL	---	Thurber needlegrass	5	
		UNFAVORABLE	---	antelope bitterbrush	5	
				big sagebrush	5	
				bottlebrush squirreltail	5	
				other perennial forbs	5	
				other perennial grasses	5	
				other shrubs	5	
				penstemon	5	
				pointleaf manzanita	5	
				snowberry	5	
				snowbrush ceanothus	5	
Lasco-----		FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
384: Torriorthents---		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Zorravista-----	SAND DUNES 6-9" (R023XG049CA)	FAVORABLE	1100	Indian ricegrass		35
		NORMAL	700	basin big sagebrush		10
		UNFAVORABLE	600	basin wildrye		10
				black greasewood		5
				fourwing saltbush		10
				littleleaf horsebrush		5
				needleandthread		10
				rubber rabbitbrush		10
				spiny hopsage		5
385: Truax-----	SANDY LOAM FAN 12-16" (R021XE180CA)	FAVORABLE	1800	Idaho fescue		40
		NORMAL	1500	antelope bitterbrush		5
		UNFAVORABLE	1000	beardless wildrye		10
				mountain big sagebrush		10
				needleandthread		20
386: Truckee-----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
387: Truckee-----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Humboldt-----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
388: Tunnison-----	SHALLOW CLAY 9-16" (R023XF093CA)	FAVORABLE	900	Thurber needlegrass		10
		NORMAL	700	beardless wildrye		10
		UNFAVORABLE	500	big sagebrush		10
				bottlebrush squirreltail		25
				littleleaf horsebrush		10
				rubber rabbitbrush		10
				western wheatgrass		15
389: Tunnison-----	SHALLOW CLAY 9-16" (R023XF093CA)	FAVORABLE	900	Thurber needlegrass		10
		NORMAL	700	beardless wildrye		10
		UNFAVORABLE	500	big sagebrush		10
				bottlebrush squirreltail		25
				littleleaf horsebrush		10
				rubber rabbitbrush		10
				western wheatgrass		15
Devada-----	SHALLOW STONY LOAM 9-12" (R023XF081CA)	FAVORABLE	900	Thurber needlegrass		15
		NORMAL	700	bluebunch wheatgrass		30
		UNFAVORABLE	500	bluegrass		10
				low sagebrush		20
390: Tunnison-----	SHALLOW CLAY 9-16" (R023XF093CA)	FAVORABLE	900	Thurber needlegrass		10
		NORMAL	700	beardless wildrye		10
		UNFAVORABLE	500	big sagebrush		10
				bottlebrush squirreltail		25
				littleleaf horsebrush		10
				rubber rabbitbrush		10
				western wheatgrass		15
Devada-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE	1000	Idaho fescue		5
		NORMAL	700	Thurber needlegrass		15
		UNFAVORABLE	500	antelope bitterbrush		5
				bluebunch wheatgrass		40
				bluegrass		10
				low sagebrush		15
391: Uhalf-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	mountain brome	10	
		UNFAVORABLE	---	needlegrass	10	
				snowbrush ceanothus	5	
				whitethorn ceanothus	10	
392: Uhalf-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	mountain brome	10	
		UNFAVORABLE	---	needlegrass	10	
				snowbrush ceanothus	5	
				whitethorn ceanothus	10	
393: Uhalf-----	---	FAVORABLE	---	Idaho fescue	5	
		NORMAL	---	antelope bitterbrush	5	
		UNFAVORABLE	---	mountain big sagebrush	5	
Gavel-----	---	FAVORABLE	---	Columbia needlegrass	5	
		NORMAL	---	Idaho fescue	30	
		UNFAVORABLE	---	bottlebrush squirreltail	5	
				curl-leaf mountain mahogany	5	
				mountain big sagebrush	35	
				sedge	5	
394: Uhalf-----	---	FAVORABLE	---	bitterbrush	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
Southpac-----	---	FAVORABLE	---	antelope bitterbrush	50	
		NORMAL	---	deltoid balsamroot	5	
		UNFAVORABLE	---	squawcarpet	25	
				wooly wyethia	5	

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
395: Verdico-----	SHALLOW STONY CLAY LOAM 9-12" (R023XF083CA)	FAVORABLE	800	Indian ricegrass		5
		NORMAL	500	Lahontan sagebrush		30
		UNFAVORABLE	300	Thurber needlegrass		40
				Webber needlegrass		5
				spiny hopsage		5
Chalco-----	SHALLOW STONY CLAY LOAM 9-12" (R023XF083CA)	FAVORABLE	800	Indian ricegrass		5
		NORMAL	500	Lahontan sagebrush		30
		UNFAVORABLE	300	Thurber needlegrass		40
				Webber needlegrass		5
				spiny hopsage		5
396: Wespac-----	SODIC SHALLOW SAND 6-9" (R023XG052CA)	FAVORABLE	900	Indian ricegrass		15
		NORMAL	700	basin big sagebrush		15
		UNFAVORABLE	400	basin wildrye		15
				bottlebrush squirreltail		15
				needleandthread		15
397: Wespac-----	SODIC LOAM 6-9" (R023XG048CA)	FAVORABLE	1100	basin big sagebrush		10
		NORMAL	900	basin wildrye		65
		UNFAVORABLE	600	black greasewood		10
				bottlebrush squirreltail		5
Playas-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
398: Weste-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	squawcarpet	5	
		UNFAVORABLE	---	whitethorn ceanothus	5	
Baileycreek----	---	FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
Tahand-----	---	FAVORABLE	---	manzanita	5	
		NORMAL	---	mountain brome	5	
		UNFAVORABLE	---	needlegrass	5	
				snowbrush ceanothus	5	
				whitethorn ceanothus	5	
399: Weste-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	squawcarpet	5	
		UNFAVORABLE	---	whitethorn ceanothus	5	
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
400: Whitinger-----	STONY LOAM 12-16" (R021XE174CA)	FAVORABLE	1800	Idaho fescue		25
		NORMAL	1400	antelope bitterbrush		10
		UNFAVORABLE	1000	bluebunch wheatgrass		30
				mountain big sagebrush		15
				needlegrass		25
Devada-----	SHALLOW STONY LOAM 12-16" (R021XE173CA)	FAVORABLE	1000	Idaho fescue		5
		NORMAL	700	Thurber needlegrass		15
		UNFAVORABLE	500	antelope bitterbrush		5
				bluebunch wheatgrass		40
				bluegrass		10
				low sagebrush		15

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
401: Whorled-----	---	FAVORABLE	---	needlegrass	10	
		NORMAL	---	sedge	10	
		UNFAVORABLE	---	serviceberry	5	
				snowberry	5	
				squawcarpet	10	
				whitethorn ceanothus	15	
				wildrye	10	
Almanor-----	---	FAVORABLE	---	greenleaf manzanita	5	
		NORMAL	---	pipsissewa	5	
		UNFAVORABLE	---	sedge	5	
				serviceberry	5	
				snowberry	5	
				squawcarpet	5	
				swamp carex	5	
				whitethorn ceanothus	5	
402: Wylo-----	SHALLOW STONY CLAY LOAM 9-12" (R023XF083CA)	FAVORABLE	800	Lahontan sagebrush		30
		NORMAL	600	Thurber needlegrass		15
		UNFAVORABLE	400	bluebunch wheatgrass		50
Bucklake-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE	1200	Thurber needlegrass		15
		NORMAL	900	antelope bitterbrush		5
		UNFAVORABLE	600	basin wildrye		5
				bluebunch wheatgrass		60
				mountain big sagebrush		5
				rabbitbrush		5
403: Wylo-----	SHALLOW STONY CLAY LOAM 9-12" (R023XF083CA)	FAVORABLE	800	Lahontan sagebrush		30
		NORMAL	600	Thurber needlegrass		15
		UNFAVORABLE	400	bluebunch wheatgrass		50
Diaz-----	STONY LOAM 6-9" (R023XG053CA)	FAVORABLE	800	Indian ricegrass		5
		NORMAL	600	Thurber needlegrass		20
		UNFAVORABLE	400	big sagebrush		15
				bluebunch wheatgrass		5
				bottlebrush squirreltail		5
				desert needlegrass		20
				green ephedra		5
				littleleaf horsebrush		10
Brubeck-----	CLAY UPLAND 9-16" (R023XF084CA)	FAVORABLE	900	Thurber needlegrass		10
		NORMAL	700	beardless wildrye		10
		UNFAVORABLE	500	big sagebrush		5
				bottlebrush squirreltail		25
				littleleaf horsebrush		10
				rubber rabbitbrush		10
				western wheatgrass		15
404: Wylo-----	SHALLOW STONY CLAY LOAM 9-12" (R023XF083CA)	FAVORABLE	800	Lahontan sagebrush		30
		NORMAL	600	Thurber needlegrass		15
		UNFAVORABLE	400	bluebunch wheatgrass		50
Pickup-----	SHALLOW STONY CLAY LOAM 9-12" (R023XF083CA)	FAVORABLE	500	Lahontan sagebrush		30
		NORMAL	400	Thurber needlegrass		10
		UNFAVORABLE	300	bluebunch wheatgrass		50
Bucklake-----	STONY LOAM 9-12" (R023XF082CA)	FAVORABLE	1200	Thurber needlegrass		15
		NORMAL	900	antelope bitterbrush		5
		UNFAVORABLE	600	basin wildrye		5
				bluebunch wheatgrass		60
				mountain big sagebrush		5
				rabbitbrush		5
405: Xerolls-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Aquolls-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 7.--RANGELAND PRODUCTIVITY AND CHARACTERISTIC PLANT COMMUNITIES--Continued
 Susanville Area, Parts of Lassen and Plumas Counties, California: Detailed Soil Map Legend

Map symbol and soil name	Ecological site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
406: Yobe-----	SALINE-SODIC SUBIRRIGATED 6-16" (R023XG058CA)	FAVORABLE	2400	alkaligrass		10
		NORMAL	1700	basin wildrye		5
		UNFAVORABLE	1000	black greasewood		30
				bluegrass		10
				inland saltgrass		25
				rush		5
				western wheatgrass		5
407: Zorravista-----	SANDY TERRACE 6-9" (R023XG054CA)	FAVORABLE	1100	Indian ricegrass		30
		NORMAL	700	basin big sagebrush		5
		UNFAVORABLE	500	basin wildrye		5
				black greasewood		10
				littleleaf horsebrush		5
				needleandthread		30
408: Zorravista-----	SAND DUNES 6-9" (R023XG049CA)	FAVORABLE	1100	Indian ricegrass		35
		NORMAL	700	basin big sagebrush		10
		UNFAVORABLE	600	basin wildrye		10
				black greasewood		5
				fourwing saltbush		10
				littleleaf horsebrush		5
				needleandthread		10
				rubber rabbitbrush		10
				spiny hopsage		5
409: Water-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 8.--FOREST PRODUCTIVITY

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
101: Almanor-----	incense cedar----- Jeffrey pine----- sugar pine----- white fir-----	--- 83 --- 61	0 72 0 129	Jeffrey pine, sugar pine, white fir
Whorled-----	Jeffrey pine----- white fir-----	--- 60	0 129	Jeffrey pine, white fir
Inville-----	Jeffrey pine----- lodgepole pine----- ponderosa pine-----	90 --- ---	86 0 0	Jeffrey pine
Tahand-----	Jeffrey pine----- white fir-----	107 60	114 129	Jeffrey pine, white fir
111: Baileycreek-----	Jeffrey pine----- white fir-----	112 ---	129 0	Jeffrey pine, white fir
Weste-----	Jeffrey pine----- sugar pine----- white fir-----	101 --- 53	100 0 100	Jeffrey pine, white fir
Inville-----	Jeffrey pine----- lodgepole pine----- ponderosa pine-----	90 --- ---	86 0 0	Jeffrey pine
Weste-----	Jeffrey pine----- sugar pine----- white fir-----	101 --- 53	100 0 100	Jeffrey pine, white fir
Baileycreek-----	Jeffrey pine----- white fir-----	112 ---	129 0	Jeffrey pine, white fir
112: Baileycreek-----	Jeffrey pine----- white fir-----	112 ---	129 0	Jeffrey pine
Weste-----	Jeffrey pine----- sugar pine----- white fir-----	101 --- 53	100 0 100	Jeffrey pine, white fir
Swainow-----	Jeffrey pine----- ponderosa pine----- white fir-----	102 --- 64	100 0 143	Jeffrey pine, white fir
Rock outcrop-----	---	---	---	---
Weste-----	Jeffrey pine----- sugar pine----- white fir-----	101 --- 53	100 0 100	Jeffrey pine, white fir
Baileycreek-----	Jeffrey pine----- white fir-----	112 ---	129 0	Jeffrey pine
113: Baileycreek-----	Jeffrey pine----- white fir-----	112 ---	129 0	Jeffrey pine, white fir
Weste-----	Jeffrey pine----- sugar pine----- white fir-----	101 --- 53	100 0 100	Jeffrey pine, white fir
Rubble land-----	---	---	---	---
Rock outcrop-----	---	---	---	---

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
Swainow-----	Jeffrey pine----- ponderosa pine----- white fir-----	102 --- 64	100 0 143	Jeffrey pine, white fir
124: Bonta-----	California black oak Douglas fir----- Jeffrey pine----- white fir-----	--- --- 64 ---	0 0 43 0	Douglas fir, Jeffrey pine
Janile-----	Jeffrey pine-----	74	57	Jeffrey pine
Lasco-----	Douglas fir----- incense cedar----- Jeffrey pine----- sugar pine----- white fir-----	--- --- 85 --- ---	0 0 72 0 0	Jeffrey pine, white fir
125: Bonta-----	California black oak Douglas fir----- Jeffrey pine----- white fir-----	--- --- 64 ---	0 0 43 0	Douglas fir, Jeffrey pine
Lasco-----	Douglas fir----- incense cedar----- Jeffrey pine----- sugar pine----- white fir-----	--- --- 85 --- ---	0 0 72 0 0	Jeffrey pine, white fir
Rock outcrop-----	---	---	---	---
Bonta-----	California black oak Douglas fir----- Jeffrey pine----- white fir-----	--- --- 64 ---	0 0 43 0	Douglas fir, Jeffrey pine
126: Bonta-----	Douglas fir----- Jeffrey pine----- ponderosa pine----- white fir-----	--- 88 --- ---	0 86 0 0	Jeffrey pine
Bonta-----	Douglas fir----- Jeffrey pine----- ponderosa pine----- white fir-----	--- 88 --- ---	0 86 0 0	Jeffrey pine
Lasco-----	Douglas fir----- incense cedar----- Jeffrey pine----- sugar pine----- white fir-----	--- --- 85 --- ---	0 0 72 0 0	Jeffrey pine, white fir
Waterman-----	Jeffrey pine-----	56	43	---
Gerle-----	white fir-----	66	0	Jeffrey pine
Chimney-----	California black oak Jeffrey pine-----	--- 75	0 57	Jeffrey pine
133: Buckbay-----	western juniper-----	24	29	---
Orhood-----	western juniper-----	26	29	---
Devada-----	---	---	---	---
Fredonyer-----	---	---	---	---
Longcreek-----	---	---	---	---

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
Ninemile-----	---	---	---	---
Petescreek-----	---	---	---	---
Puls-----	---	---	---	---
134:				
Buckbay-----	western juniper-----	24	29	---
Orhood-----	western juniper-----	26	29	---
Fredonyer-----	---	---	---	---
Searles-----	---	---	---	---
Jauriga-----	---	---	---	---
136:				
Bunanch-----	Jeffrey pine-----	62	43	Jeffrey pine
Ulhalf-----	incense cedar-----	---	0	Jeffrey pine, ponderosa pine
	Jeffrey pine-----	82	72	
	ponderosa pine-----	---	0	
Jauriga-----	---	---	---	---
Keddie-----	---	---	---	---
137:				
Cagwin-----	Douglas fir-----	---	0	Douglas fir, Jeffrey pine
	Jeffrey pine-----	94	86	
	white fir-----	---	0	
Penstock-----	Douglas fir-----	92	72	white fir
	Jeffrey pine-----	87	86	
	white fir-----	58	114	
Quartzburg-----	Jeffrey pine-----	64	43	Jeffrey pine
Cagwin-----	---	---	---	---
Lasco-----	Douglas fir-----	---	0	Jeffrey pine, white fir
	incense cedar-----	---	0	
	Jeffrey pine-----	85	72	
	sugar pine-----	---	0	
	white fir-----	---	0	
Cagwin-----	Douglas fir-----	---	0	Douglas fir, Jeffrey pine
	Jeffrey pine-----	94	86	
	white fir-----	---	0	
138:				
Cagwin-----	Douglas fir-----	---	0	Douglas fir, Jeffrey pine
	Jeffrey pine-----	94	86	
	white fir-----	---	0	
Cagwin family-----	Douglas fir-----	---	0	Douglas fir, Jeffrey pine
	Jeffrey pine-----	94	86	
	white fir-----	---	0	
Penstock-----	Douglas fir-----	92	72	white fir
	Jeffrey pine-----	87	86	
	white fir-----	58	114	
Lasco-----	California black oak-----	---	0	ponderosa pine
	incense cedar-----	---	0	
	Jeffrey pine-----	---	0	
	ponderosa pine-----	88	86	

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
Cagwin-----	Douglas fir----- Jeffrey pine----- white fir-----	--- 94 ---	0 86 0	Douglas fir, Jeffrey pine
Quartzburg-----	Jeffrey pine-----	64	43	Jeffrey pine
152: Chimney-----	California black oak Jeffrey pine-----	--- 75	0 57	Jeffrey pine
Mottsville-----	---	---	---	---
Rock outcrop-----	---	---	---	---
153: Chimney-----	California black oak Jeffrey pine-----	--- 75	0 57	Jeffrey pine
Bonta-----	Douglas fir----- Jeffrey pine----- ponderosa pine----- white fir-----	--- 88 --- ---	0 86 0 0	Jeffrey pine
Mottsville-----	---	---	---	---
154: Chimney-----	California black oak Jeffrey pine-----	--- 75	0 57	Jeffrey pine
Janile-----	Jeffrey pine-----	74	57	Jeffrey pine
Waterman-----	Jeffrey pine-----	56	43	---
Rock outcrop-----	---	---	---	---
Mottsville-----	---	---	---	---
Bonta-----	Douglas fir----- Jeffrey pine----- ponderosa pine----- white fir-----	--- 88 --- ---	0 86 0 0	Jeffrey pine
155: Chimney-----	California black oak Jeffrey pine-----	--- 75	0 57	Jeffrey pine
Janile-----	Jeffrey pine-----	74	57	Jeffrey pine
Waterman-----	Jeffrey pine-----	56	43	---
Chimney-----	California black oak Jeffrey pine-----	--- 75	0 57	Jeffrey pine
Rock outcrop-----	---	---	---	---
156: Chimney-----	California black oak Jeffrey pine-----	--- 75	0 57	Jeffrey pine
Waterman-----	Jeffrey pine-----	56	43	---
Mottsville-----	---	---	---	---
Massack-----	---	---	---	---
Calpine-----	---	---	---	---

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
157:				
Chirpchatter-----	California black oak	---	0	Jeffrey pine
	Jeffrey pine-----	93	86	
	ponderosa pine-----	---	0	
Ulhalf-----	California black oak	---	0	Jeffrey pine,
	Jeffrey pine-----	93	86	ponderosa pine
	ponderosa pine-----	---	0	
Gavel family-----	California black oak	---	0	Jeffrey pine
	Jeffrey pine-----	93	86	
	ponderosa pine-----	---	0	
172:				
Devada-----	---	---	---	---
Gavel-----	Jeffrey pine-----	71	57	Jeffrey pine
	western juniper-----	---	0	
Ulhalf-----	Douglas fir-----	97	86	Douglas fir,
	ponderosa pine-----	97	100	ponderosa pine
	white fir-----	70	157	
173:				
Devada-----	---	---	---	---
Gavel-----	Jeffrey pine-----	71	57	Jeffrey pine
	western juniper-----	---	0	
Whitinger-----	western juniper-----	25	29	---
Rubble land-----	---	---	---	---
Rock outcrop-----	---	---	---	---
Petescreek-----	---	---	---	---
Orhood-----	western juniper-----	26	29	---
Bucklake-----	---	---	---	---
176:				
Devada-----	---	---	---	---
Orhood-----	western juniper-----	26	29	---
Hart Camp-----	---	---	---	---
Jauriga-----	---	---	---	---
Fiddler-----	western juniper-----	20	14	---
Searles-----	---	---	---	---
Rock outcrop-----	---	---	---	---
Aquolls-----	---	---	---	---
Rubble land-----	---	---	---	---
177:				
Devada-----	---	---	---	---
Papeek-----	Jeffrey pine-----	79	72	Jeffrey pine
Gavel-----	Jeffrey pine-----	71	57	Jeffrey pine
	western juniper-----	---	0	
Whitinger-----	western juniper-----	25	29	---

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
Gavel-----	Jeffrey pine----- western juniper-----	71 ---	57 0	Jeffrey pine
178:				
Devada-----	---	---	---	---
Petescreek-----	---	---	---	---
Fiddler-----	western juniper-----	20	14	---
Longcreek-----	---	---	---	---
Fredonyer-----	---	---	---	---
Bucklake-----	---	---	---	---
Dune land-----	---	---	---	---
Tunnison-----	---	---	---	---
Madeline-----	---	---	---	---
184:				
Eaglelake-----	incense cedar----- Jeffrey pine----- sugar pine----- white fir-----	--- 87 --- 55	0 86 0 114	Jeffrey pine
Outland-----	Jeffrey pine----- ponderosa pine----- white fir-----	88 --- 47	86 0 86	Jeffrey pine, white fir
Rock outcrop-----	---	---	---	---
Eaglelake-----	incense cedar----- Jeffrey pine----- sugar pine----- white fir-----	--- 87 --- 55	0 86 0 114	Jeffrey pine
185:				
Eaglelake-----	incense cedar----- Jeffrey pine----- sugar pine----- white fir-----	--- 87 --- 55	0 86 0 114	Jeffrey pine
Outland-----	Jeffrey pine----- white fir-----	88 47	86 86	Jeffrey pine, white fir
Weste-----	Jeffrey pine----- white fir-----	82 ---	72 0	Jeffrey pine
Inville-----	Jeffrey pine----- lodgepole pine----- ponderosa pine-----	90 --- ---	86 0 0	Jeffrey pine
Outland-----	Jeffrey pine----- white fir-----	88 47	86 86	Jeffrey pine, white fir
Rock outcrop-----	---	---	---	---
186:				
Eaglelake-----	incense cedar----- Jeffrey pine----- sugar pine----- white fir-----	--- 87 --- 55	0 86 0 114	Jeffrey pine
Outland-----	Jeffrey pine----- white fir-----	88 47	86 86	Jeffrey pine, white fir

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
Weste-----	Jeffrey pine----- white fir-----	82 ---	72 0	Jeffrey pine
Rubble land-----	---	---	---	---
Rock outcrop-----	---	---	---	---
Easte-----	California red fir-- white fir-----	--- 46	0 86	California red fir, white fir
187: Eaglelake-----	incense cedar----- Jeffrey pine----- sugar pine----- white fir-----	--- 87 --- 55	0 86 0 114	Jeffrey pine
Outland-----	Jeffrey pine----- ponderosa pine----- white fir-----	88 --- 47	86 0 86	Jeffrey pine, white fir
Weste-----	Jeffrey pine----- white fir-----	82 ---	72 0	Jeffrey pine
Rubble land-----	---	---	---	---
Easte-----	California red fir-- white fir-----	--- 46	0 86	California red fir, white fir
Outland-----	Jeffrey pine----- ponderosa pine----- white fir-----	88 --- 47	86 0 86	Jeffrey pine, white fir
Weste-----	Jeffrey pine----- white fir-----	82 ---	72 0	Jeffrey pine
188: Eaglelake-----	incense cedar----- Jeffrey pine----- sugar pine----- white fir-----	--- 87 --- 55	0 86 0 114	Jeffrey pine
Outland-----	Jeffrey pine----- ponderosa pine----- white fir-----	88 --- 47	86 0 86	Jeffrey pine, white fir
Weste-----	Jeffrey pine----- white fir-----	82 ---	72 0	Jeffrey pine
Deadwood-----	canyon live oak----- Douglas fir----- incense cedar----- ponderosa pine----- sugar pine-----	--- --- --- 40 ---	0 0 0 29 0	---
Eaglelake-----	incense cedar----- Jeffrey pine----- sugar pine----- white fir-----	--- 87 --- 55	0 86 0 114	Jeffrey pine
189: Easte-----	white fir-----	42	72	white fir
Fredonyer-----	---	---	---	---
Petes creek-----	---	---	---	---
Glean-----	---	---	---	---
Said-----	Jeffrey pine----- white fir-----	83 53	72 100	Jeffrey pine, white fir

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
Rubble land-----	---	---	---	---
Xerolls-----	---	---	---	---
Eaglelake family-----	incense cedar-----	---	0	Jeffrey pine
	Jeffrey pine-----	87	86	
	sugar pine-----	---	0	
	white fir-----	55	114	
190:				
Easte-----	California red fir--	---	0	California red fir, white fir
	white fir-----	46	86	
Roop-----	California red fir--	---	0	California red fir, white fir
	western white pine--	---	0	
	white fir-----	47	86	
Rock outcrop-----	---	---	---	---
Outland-----	Jeffrey pine-----	88	86	Jeffrey pine, white fir
	ponderosa pine-----	---	0	
	white fir-----	47	86	
Rubble land-----	---	---	---	---
Roop-----	California red fir--	---	0	California red fir, white fir
	western white pine--	---	0	
	white fir-----	47	86	
Easte-----	California red fir--	---	0	California red fir, white fir
	white fir-----	46	86	
191:				
Easte-----	California red fir--	---	0	California red fir, white fir
	white fir-----	46	86	
Roop-----	California red fir--	---	0	California red fir, white fir
	western white pine--	---	0	
	white fir-----	47	86	
Outland-----	Jeffrey pine-----	88	86	Jeffrey pine, white fir
	ponderosa pine-----	---	0	
	white fir-----	47	86	
Rock outcrop-----	---	---	---	---
Rubble land-----	---	---	---	---
194:				
Fiddler-----	western juniper-----	20	14	---
Gavel-----	Jeffrey pine-----	71	57	Jeffrey pine
	western juniper-----	---	0	
Rubble land-----	---	---	---	---
Devada-----	---	---	---	---
Orhood-----	western juniper-----	26	29	---
Rock outcrop-----	---	---	---	---
Whitinger-----	western juniper-----	25	29	---
Said-----	Jeffrey pine-----	83	72	Jeffrey pine, white fir
	white fir-----	53	100	
195:				
Fiddler-----	western juniper-----	20	14	---

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
Gavel-----	Jeffrey pine----- western juniper-----	71 ---	57 0	Jeffrey pine
Rubble land-----	---	---	---	---
Orhood-----	western juniper-----	26	29	---
Devada-----	---	---	---	---
Rock outcrop-----	---	---	---	---
Whitinger-----	western juniper-----	25	29	---
Said-----	Jeffrey pine----- white fir-----	83 53	72 100	Jeffrey pine, white fir
196: Fiddler-----	western juniper-----	20	14	---
Madeline-----	---	---	---	---
Orhood-----	western juniper-----	26	29	---
Devada-----	---	---	---	---
Rock outcrop-----	---	---	---	---
Fivesprings-----	---	---	---	---
Petescreek-----	---	---	---	---
197: Fiddler-----	western juniper-----	20	14	---
Orhood-----	western juniper-----	26	29	---
Petescreek-----	---	---	---	---
Home Camp-----	---	---	---	---
Fredonyer-----	---	---	---	---
Buckbay-----	western juniper-----	24	29	---
Badenaugh-----	---	---	---	---
207: Forgay-----	Jeffrey pine----- lodgepole pine-----	100 ---	100 0	Jeffrey pine
Mountmed, clay loam----	---	---	---	---
Urban land-----	---	---	---	---
208: Forgay-----	Jeffrey pine-----	75	57	Jeffrey pine
Urban land-----	---	---	---	---
Forgay-----	Jeffrey pine-----	75	57	Jeffrey pine
Riverwash, extremely gravelly coarse sand---	---	---	---	---
Fluvents-----	---	---	---	---
211: Fraval-----	Jeffrey pine-----	73	57	Jeffrey pine

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
Fredonyer-----	---	---	---	---
Said-----	Jeffrey pine----- white fir-----	83 53	72 100	Jeffrey pine, white fir
Keddie, loam-----	---	---	---	---
Rubble land-----	---	---	---	---
Rock outcrop-----	---	---	---	---
Searles, very stony loam	---	---	---	---
Petescreek, gravelly loam-----	---	---	---	---
Ninemile, very stony loam-----	---	---	---	---
Orhood, very stony sandy loam-----	western juniper----	26	29	---
212:				
Fraval-----	Jeffrey pine-----	73	57	Jeffrey pine
Said-----	Jeffrey pine----- white fir-----	83 53	72 100	Jeffrey pine, white fir
Rock outcrop-----	---	---	---	---
Fredonyer, very stony loam-----	---	---	---	---
Ninemile, very stony loam-----	---	---	---	---
213:				
Fredonyer-----	---	---	---	---
Whitinger-----	western juniper----	25	29	---
Orhood-----	western juniper----	26	29	---
Badenaugh, stony sandy loam-----	---	---	---	---
Rubble land-----	---	---	---	---
Rock outcrop-----	---	---	---	---
Searles, very stony loam	---	---	---	---
Petescreek, very gravelly loam-----	---	---	---	---
Hapgood, stony loam----	---	---	---	---
Fiddler, very stony loam	western juniper----	20	14	---
218:				
Gavel-----	Jeffrey pine----- western juniper----	71 ---	57 0	Jeffrey pine
Devada, very cobbly loam	---	---	---	---
Searles, very stony loam	---	---	---	---

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
219:				
Gavel-----	Jeffrey pine-----	71	57	---
	western juniper-----	---	0	
Devada-----	---	---	---	---
Devada, very cobbly loam	---	---	---	---
223:				
Gerle-----	Jeffrey pine-----	105	114	Jeffrey pine
Gerle, gravelly sandy loam-----	Jeffrey pine-----	105	114	Jeffrey pine
Gerle-----	Jeffrey pine-----	105	114	Jeffrey pine
224:				
Gerle-----	white fir-----	66	0	Jeffrey pine
Gerle-----	white fir-----	66	0	Jeffrey pine
Rock outcrop-----	---	---	---	---
Mottsville, gravelly loamy coarse sand-----	---	---	---	---
225:				
Gerle-----	California red fir--	---	0	white fir
	white fir-----	77	186	
Gerle-----	California red fir--	51	---	Jeffrey pine
	white fir-----	56	0	
Gerle-----	California red fir--	51	---	Jeffrey pine
	white fir-----	66	0	
Rock outcrop-----	---	---	---	---
232:				
Hangtown-----	California red fir--	---	0	white fir
	Douglas fir-----	---	0	
	sugar pine-----	---	0	
	white fir-----	50	86	
Hangtown-----	California red fir--	---	0	white fir
	Douglas fir-----	---	0	
	sugar pine-----	---	0	
	white fir-----	50	86	
Rock outcrop-----	---	---	---	---
Penstock, stony loam---	Douglas fir-----	92	72	white fir
	Jeffrey pine-----	87	86	
	white fir-----	58	114	
Scaribou, stony loam---	Douglas fir-----	102	86	white fir
	Jeffrey pine-----	96	100	
	white fir-----	57	114	
Deadwood, very gravelly sandy loam-----	canyon live oak-----	---	0	---
	Douglas fir-----	---	0	
	incense cedar-----	---	0	
	ponderosa pine-----	40	29	
	sugar pine-----	---	0	

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
256:				
Indiano-----	---	---	---	---
Zephan-----	---	---	---	---
Duco-----	western juniper----	38	0	---
Barnard, stony sandy loam-----	---	---	---	---
Graufels, bouldery sand-	---	---	---	---
Glenbrook, gravelly loamy coarse sand-----	---	---	---	---
Glean, very stony loam--	---	---	---	---
Corral, very cobbly loam	---	---	---	---
257:				
Inville-----	Jeffrey pine----- lodgepole pine----- ponderosa pine-----	90 --- ---	86 0 0	Jeffrey pine
Mountmed, clay loam----	---	---	---	---
Swainow, very gravelly sandy loam-----	Jeffrey pine----- ponderosa pine----- white fir-----	102 --- 64	100 0 143	Jeffrey pine, white fir
259:				
Jauriga-----	---	---	---	---
Buckbay-----	western juniper----	24	29	---
Fredonyer-----	---	---	---	---
Rubble land-----	---	---	---	---
Rock outcrop-----	---	---	---	---
Petes creek, gravelly loam-----	---	---	---	---
266:				
Lasco-----	Douglas fir----- incense cedar----- Jeffrey pine----- sugar pine----- white fir-----	--- --- 85 --- ---	0 0 72 0 0	Jeffrey pine, white fir
Lasco-----	Douglas fir----- incense cedar----- Jeffrey pine----- sugar pine----- white fir-----	--- --- 85 --- ---	0 0 72 0 0	Jeffrey pine, white fir
Scaribou, very gravelly loam-----	Jeffrey pine----- white fir-----	96 ---	100 0	Jeffrey pine, sugar pine, white fir
267:				
Lasco-----	Douglas fir----- incense cedar----- Jeffrey pine----- sugar pine----- white fir-----	--- --- 85 --- ---	0 0 72 0 0	Jeffrey pine, white fir

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
Bonta, gravelly sandy loam-----	Douglas fir----- Jeffrey pine----- ponderosa pine----- white fir-----	--- 88 --- ---	0 86 0 0	Jeffrey pine
268: Lasco-----	Douglas fir----- incense cedar----- Jeffrey pine----- sugar pine----- white fir-----	--- --- 85 --- ---	0 0 72 0 0	Jeffrey pine, white fir
Waterman--- -----	Jeffrey pine-----	56	43	---
Dotta, gravelly loam---	---	---	---	---
269: Lasco-----	California black oak incense cedar----- Jeffrey pine----- ponderosa pine-----	--- --- --- 88	0 0 0 86	ponderosa pine
Bonta-----	California black oak Douglas fir----- Jeffrey pine----- white fir-----	--- --- 64 ---	0 0 43 0	Douglas fir, Jeffrey pine
Chirpchatter, sandy loam	California black oak Jeffrey pine----- ponderosa pine-----	--- 93 ---	0 86 0	Jeffrey pine
Chimney, gravelly loamy coarse sand-----	California black oak Jeffrey pine-----	--- 75	0 57	Jeffrey pine
Cagwin,-----	Douglas fir----- Jeffrey pine----- white fir-----	--- 94 ---	0 86 0	Douglas fir, Jeffrey pine
298: Ninemile-----	---	---	---	---
Petescreek-----	---	---	---	---
Fiddler-----	western juniper----	20	14	---
Rock outcrop-----	---	---	---	---
Fredonyer, very stony loam-----	---	---	---	---
Devada, very stony loam-	---	---	---	---
299: Ninemile-----	---	---	---	---
Weste-----	Jeffrey pine----- sugar pine----- white fir-----	101 --- 53	100 0 100	Jeffrey pine, white fir
Mountmed, clay loam----	---	---	---	---
Rock outcrop-----	---	---	---	---
302: Orhood-----	western juniper----	26	29	---

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
Incy, fine sand-----	---	---	---	---
Searles, very stony loam	---	---	---	---
Puls, very stony loam---	---	---	---	---
304:				
Outland-----	Jeffrey pine-----	88	86	Jeffrey pine, white fir
	ponderosa pine-----	---	0	
	white fir-----	47	86	
Rock outcrop-----	---	---	---	---
Rubble land-----	---	---	---	---
Eaglelake, very gravelly loam-----	incense cedar-----	---	0	Jeffrey pine
	Jeffrey pine-----	87	86	
	sugar pine-----	---	0	
	white fir-----	55	114	
305:				
Outland-----	Jeffrey pine-----	88	86	Jeffrey pine, white fir
	white fir-----	47	86	
Outland-----	Jeffrey pine-----	88	86	Jeffrey pine, white fir
	ponderosa pine-----	---	0	
	white fir-----	47	86	
Eaglelake, very gravelly loam-----	incense cedar-----	---	0	Jeffrey pine
	Jeffrey pine-----	87	86	
	sugar pine-----	---	0	
	white fir-----	55	114	
Rock outcrop-----	---	---	---	---
306:				
Outland-----	Douglas fir-----	83	57	Jeffrey pine
	Jeffrey pine-----	---	0	
	ponderosa pine-----	---	0	
Penstock-----	Douglas fir-----	92	72	white fir
	Jeffrey pine-----	87	86	
	white fir-----	58	114	
Deadwood, very gravelly sandy loam-----	canyon live oak-----	---	0	---
	Douglas fir-----	---	0	
	incense cedar-----	---	0	
	ponderosa pine-----	40	29	
	sugar pine-----	---	0	
Easte, very gravelly sandy loam-----	California red fir--	---	0	California red fir, white fir
	white fir-----	46	86	
307:				
Outland-----	Douglas fir-----	83	57	Jeffrey pine
	Jeffrey pine-----	---	0	
	ponderosa pine-----	---	0	
Penstock-----	Douglas fir-----	92	72	white fir
	Jeffrey pine-----	87	86	
	white fir-----	58	114	
Fiddler, very stony loam	---	---	---	---
Easte, deep to bedrock--	---	---	---	---

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
308:				
Papeek-----	Jeffrey pine-----	79	72	Jeffrey pine
Uhalf, very gravelly sandy loam-----	incense cedar-----	---	0	Jeffrey pine, ponderosa pine
	Jeffrey pine-----	82	72	
	ponderosa pine-----	---	0	
Papeek, clay loam-----	Jeffrey pine-----	79	72	Jeffrey pine
309:				
Papeek-----	Jeffrey pine-----	79	72	Jeffrey pine
Deadwood, very gravelly sandy loam-----	canyon live oak-----	---	0	---
	Douglas fir-----	---	0	
	incense cedar-----	---	0	
	ponderosa pine-----	40	29	
	sugar pine-----	---	0	
310:				
Penstock-----	Douglas fir-----	92	72	white fir
	Jeffrey pine-----	87	86	
	white fir-----	58	114	
Deadwood-----	canyon live oak-----	---	0	---
	Douglas fir-----	---	0	
	incense cedar-----	---	0	
	ponderosa pine-----	40	29	
	sugar pine-----	---	0	
Rock outcrop-----	---	---	---	---
Scaribou, very gravelly loam-----	Jeffrey pine-----	96	100	Jeffrey pine, sugar pine, white fir
	white fir-----	---	0	
311:				
Penstock-----	Douglas fir-----	92	72	white fir
	Jeffrey pine-----	87	86	
	white fir-----	58	114	
Deadwood-----	canyon live oak-----	---	0	---
	Douglas fir-----	---	0	
	incense cedar-----	---	0	
	ponderosa pine-----	40	29	
	sugar pine-----	---	0	
Rock outcrop-----	---	---	---	---
Weste, very gravelly sandy loam-----	Jeffrey pine-----	82	72	Jeffrey pine
	white fir-----	---	0	
Tahand-----	Jeffrey pine-----	107	114	Jeffrey pine, white fir
	white fir-----	60	129	
312:				
Penstock, stony loam---	Douglas fir-----	92	72	white fir
	Jeffrey pine-----	87	86	
	white fir-----	58	114	
Scaribou, stony loam---	Douglas fir-----	102	86	white fir
	Jeffrey pine-----	96	100	
	white fir-----	57	114	

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
Inville, very gravelly loam-----	Jeffrey pine----- lodgepole pine----- ponderosa pine-----	90 --- ---	86 0 0	Jeffrey pine
Aquolls, gravelly sandy loam-----	---	---	---	---
313: Penstock, stony loam---	Douglas fir----- Jeffrey pine----- white fir-----	92 87 58	72 86 114	white fir
Scaribou, stony loam---	Douglas fir----- Jeffrey pine----- white fir-----	102 96 57	86 100 114	white fir
Deadwood, very gravelly sandy loam-----	canyon live oak----- Douglas fir----- incense cedar----- ponderosa pine----- sugar pine-----	--- --- --- 40 ---	0 0 0 29 0	---
Rock outcrop-----	---	---	---	---
321: Petescreek-----	---	---	---	---
Orhood-----	western juniper-----	26	29	---
Fredonyer-----	---	---	---	---
Searles, very cobbly loam-----	---	---	---	---
Easte, very gravelly sandy loam-----	California red fir-- white fir-----	--- 46	0 86	California red fir, white fir
Indiano, stony fine sandy loam-----	---	---	---	---
Glean, very stony loam--	---	---	---	---
Alomax, very stony sandy loam-----	---	---	---	---
323: Petescreek-----	---	---	---	---
Searles-----	---	---	---	---
Orhood-----	western juniper-----	26	29	---
Fredonyer, very stony loam-----	---	---	---	---
332: Quartzburg-----	Jeffrey pine-----	64	43	Jeffrey pine
Scaribou-----	Jeffrey pine----- white fir-----	96 ---	100 0	Jeffrey pine, sugar pine, white fir
Rubble land-----	---	---	---	---
Rock outcrop-----	---	---	---	---

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
337:				
Redriver-----	incense cedar-----	---	0	Jeffrey pine, white fir
	Jeffrey pine-----	100	100	
	white fir-----	51	100	
Gerle-----	Jeffrey pine-----	105	114	Jeffrey pine
Inville, very gravelly loam-----	Jeffrey pine-----	90	86	Jeffrey pine
	lodgepole pine-----	---	0	
	ponderosa pine-----	---	0	
Forgay, extremely gravelly sandy loam---	Jeffrey pine-----	75	57	Jeffrey pine
338:				
Redriver-----	incense cedar-----	---	0	Jeffrey pine, white fir
	Jeffrey pine-----	100	100	
	white fir-----	51	100	
Weste-----	Jeffrey pine-----	101	100	Jeffrey pine, white fir
	sugar pine-----	---	0	
	white fir-----	53	100	
Woodwest, very stony sandy loam-----	Jeffrey pine-----	78	72	Jeffrey pine
	white fir-----	---	0	
Swainow, very gravelly sandy loam-----	Jeffrey pine-----	102	100	Jeffrey pine, white fir
	ponderosa pine-----	---	0	
	white fir-----	64	143	
Keddie, loam-----	---	---	---	---
Inville, very gravelly loam-----	Jeffrey pine-----	90	86	Jeffrey pine
	lodgepole pine-----	---	0	
	ponderosa pine-----	---	0	
339:				
Redriver, stony sandy loam-----	incense cedar-----	---	0	Jeffrey pine, white fir
	Jeffrey pine-----	85	72	
	white fir-----	---	0	
Woodwest-----	Jeffrey pine-----	78	72	Jeffrey pine
	white fir-----	---	0	
Wafila-----	Jeffrey pine-----	104	114	Jeffrey pine
	lodgepole pine-----	---	0	
	white fir-----	---	0	
Inville, very gravelly loam-----	Jeffrey pine-----	90	86	Jeffrey pine
	lodgepole pine-----	---	0	
	ponderosa pine-----	---	0	
Rock outcrop-----	---	---	---	---
343:				
Rubble land-----	---	---	---	---
Fiddler-----	western juniper-----	20	14	---
Orhood, very stony loam-	western juniper-----	26	29	---
Rock outcrop-----	---	---	---	---

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
346:				
Rubble land-----	---	---	---	---
Weste-----	Jeffrey pine----- white fir-----	82 ---	72 0	Jeffrey pine
Gavel-----	Jeffrey pine----- western juniper-----	71 ---	57 0	Jeffrey pine
Easte, gravelly loam----	white fir-----	42	72	white fir
Scaribou, very gravelly loam-----	Jeffrey pine----- white fir-----	96 ---	100 0	Jeffrey pine, sugar pine, white fir
Outland, very stony loam	Jeffrey pine----- ponderosa pine----- white fir-----	88 --- 47	86 0 86	Jeffrey pine, white fir
Rock outcrop-----	---	---	---	---
351:				
Said-----	Jeffrey pine----- white fir-----	83 53	72 100	Jeffrey pine, white fir
Fredonyer, very stony loam-----	---	---	---	---
Easte, very gravelly sandy loam-----	California red fir-- white fir-----	--- 46	0 86	California red fir, white fir
Ninemile, very cobbly loam-----	---	---	---	---
Petescreek, gravelly loam-----	---	---	---	---
352:				
Said-----	Jeffrey pine----- white fir-----	83 53	72 100	Jeffrey pine, white fir
Fraval-----	Jeffrey pine-----	73	57	Jeffrey pine
Easte, very gravelly sandy loam-----	California red fir-- white fir-----	--- 46	0 86	California red fir, white fir
Deadwood family, very gravelly sandy loam----	canyon live oak----- Douglas fir----- incense cedar----- ponderosa pine----- sugar pine-----	--- --- --- 40 ---	0 0 0 29 0	---
353:				
Said-----	Jeffrey pine----- white fir-----	83 53	72 100	Jeffrey pine, white fir
Ninemile-----	---	---	---	---
Rock outcrop-----	---	---	---	---
Fredonyer, very stony loam-----	---	---	---	---

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
Eaglelake, very gravelly loam-----	incense cedar----- Jeffrey pine----- sugar pine----- white fir-----	--- 87 --- 55	0 86 0 114	Jeffrey pine
354: Scaribou-----	Jeffrey pine----- white fir-----	96 ---	100 0	Jeffrey pine, sugar pine, white fir
Scaribou, stony loam---	Douglas fir----- Jeffrey pine----- white fir-----	102 96 57	86 100 114	white fir
Penstock, stony loam---	Douglas fir----- Jeffrey pine----- white fir-----	92 87 58	72 86 114	white fir
355: Scaribou-----	Douglas fir----- Jeffrey pine----- white fir-----	102 96 57	86 100 114	white fir
Penstock-----	Douglas fir----- Jeffrey pine----- white fir-----	92 87 58	72 86 114	white fir
Rock outcrop-----	---	---	---	---
Rubble land-----	---	---	---	---
Deadwood, very gravelly sandy loam-----	canyon live oak----- Douglas fir----- incense cedar----- ponderosa pine----- sugar pine-----	--- --- --- 40 ---	0 0 0 29 0	---
360: Searles-----	---	---	---	---
Orhood-----	western juniper-----	26	29	---
Devada-----	---	---	---	---
Bucklake, very stony loam-----	---	---	---	---
Fiddler, very stony loam	western juniper-----	20	14	---
Fivesprings, very stony loam-----	---	---	---	---
Rock outcrop-----	---	---	---	---
Xerolls, loamy coarse sand-----	---	---	---	---
364: Southpac-----	incense cedar----- Jeffrey pine----- ponderosa pine-----	--- 78 ---	0 72 0	Jeffrey pine, ponderosa pine
Rock outcrop-----	---	---	---	---
Riverwash-----	---	---	---	---
Keddie, loam-----	---	---	---	---

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
373:				
Swainow-----	Jeffrey pine-----	94	86	Jeffrey pine, white fir
	sugar pine-----	---	0	
	white fir-----	---	0	
Almanor-----	incense cedar-----	---	0	Jeffrey pine, sugar pine, white fir
	Jeffrey pine-----	83	72	
	sugar pine-----	---	0	
	white fir-----	61	129	
Tahand-----	Jeffrey pine-----	107	114	Jeffrey pine, white fir
	white fir-----	60	129	
Whorled, very gravelly sandy loam-----	Jeffrey pine-----	---	0	Jeffrey pine, white fir
	white fir-----	60	129	
374:				
Swainow, very stony sandy loam-----	Jeffrey pine-----	94	86	Jeffrey pine, white fir
	sugar pine-----	---	0	
	white fir-----	---	0	
Almanor-----	incense cedar-----	---	0	Jeffrey pine, sugar pine, white fir
	Jeffrey pine-----	83	72	
	sugar pine-----	---	0	
	white fir-----	61	129	
Keddie, loam-----	---	---	---	---
Almanor, very gravelly sandy loam-----	incense cedar-----	---	0	Jeffrey pine, sugar pine, white fir
	Jeffrey pine-----	83	72	
	sugar pine-----	---	0	
	white fir-----	61	129	
Rock outcrop-----	---	---	---	---
Whorled, very gravelly sandy loam-----	Jeffrey pine-----	---	0	Jeffrey pine, white fir
	white fir-----	60	129	
Tahand-----	Jeffrey pine-----	107	114	Jeffrey pine, white fir
	white fir-----	60	129	
375:				
Swainow-----	Jeffrey pine-----	102	100	Jeffrey pine, white fir
	ponderosa pine-----	---	0	
	white fir-----	64	143	
Redriver-----	incense cedar-----	---	0	Jeffrey pine, white fir
	Jeffrey pine-----	100	100	
	white fir-----	51	100	
Rubble land-----	---	---	---	---
Redriver-----	incense cedar-----	---	0	Jeffrey pine, white fir
	Jeffrey pine-----	100	100	
	white fir-----	51	100	
Woodwest, very stony sandy loam-----	Jeffrey pine-----	78	72	Jeffrey pine
	white fir-----	---	0	
376:				
Swainow-----	Jeffrey pine-----	94	86	Jeffrey pine, white fir
	sugar pine-----	---	0	
	white fir-----	---	0	

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
Tahand-----	Jeffrey pine-----	107	114	Jeffrey pine, white fir
	white fir-----	60	129	
Urban land-----	---	---	---	---
Baileycreek, very bouldery loam-----	Jeffrey pine-----	112	129	Jeffrey pine
	white fir-----	---	0	
377: Tahand-----	Jeffrey pine-----	107	114	Jeffrey pine, white fir
	white fir-----	60	129	
Baileycreek-----	Jeffrey pine-----	98	100	Jeffrey pine, white fir
	sugar pine-----	---	0	
	white fir-----	---	0	
Rock outcrop-----	---	---	---	---
Baileycreek, very stony loam-----	Jeffrey pine-----	112	129	Jeffrey pine
	white fir-----	---	0	
Weste, very stony sandy loam-----	Jeffrey pine-----	101	100	Jeffrey pine, white fir
	sugar pine-----	---	0	
	white fir-----	53	100	
Redriver, very gravelly sandy loam-----	incense cedar-----	---	0	Jeffrey pine, white fir
	Jeffrey pine-----	100	100	
	white fir-----	51	100	
378: Tahand-----	Jeffrey pine-----	107	114	Jeffrey pine, white fir
	white fir-----	60	129	
Swainow-----	Jeffrey pine-----	94	86	Jeffrey pine, white fir
	sugar pine-----	---	0	
	white fir-----	---	0	
Almanor-----	incense cedar-----	---	0	Jeffrey pine, sugar pine, white fir
	Jeffrey pine-----	83	72	
	sugar pine-----	---	0	
	white fir-----	61	129	
Rock outcrop-----	---	---	---	---
Woodwest, very stony sandy loam-----	Jeffrey pine-----	78	72	Jeffrey pine
	white fir-----	---	0	
Keddie, loam-----	---	---	---	---
382: Toiyabe-----	Jeffrey pine-----	61	43	Jeffrey pine
	ponderosa pine-----	---	0	
	white fir-----	---	0	
Lasco-----	Douglas fir-----	---	0	Jeffrey pine, white fir
	incense cedar-----	---	0	
	Jeffrey pine-----	85	72	
	sugar pine-----	---	0	
	white fir-----	---	0	
Quartzburg-----	Jeffrey pine-----	64	43	Jeffrey pine
Rock outcrop-----	---	---	---	

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
Toiyabe-----	Jeffrey pine----- ponderosa pine----- white fir-----	61 --- ---	43 0 0	Jeffrey pine
Outland, very stony loam	Jeffrey pine----- ponderosa pine----- white fir-----	88 --- 47	86 0 86	Jeffrey pine, white fir
383: Toiyabe-----	Jeffrey pine----- ponderosa pine----- white fir-----	61 --- ---	43 0 0	Jeffrey pine
Lasco-----	Douglas fir----- incense cedar----- Jeffrey pine----- sugar pine----- white fir-----	--- --- 85 --- ---	0 0 72 0 0	Jeffrey pine, white fir
Bonta, coarse sandy loam	California black oak Douglas fir----- Jeffrey pine----- white fir-----	--- --- 64 ---	0 0 43 0	Douglas fir, Jeffrey pine
Toiyabe-----	Jeffrey pine----- ponderosa pine----- white fir-----	61 --- ---	43 0 0	Jeffrey pine
391: Ulhalf-----	Douglas fir----- ponderosa pine----- white fir-----	97 97 70	86 100 157	Douglas fir, ponderosa pine
Inville, very gravelly loam-----	Jeffrey pine----- lodgepole pine----- ponderosa pine-----	90 --- ---	86 0 0	Jeffrey pine
Southpac, very stony loam-----	incense cedar----- Jeffrey pine----- ponderosa pine-----	--- 78 ---	0 72 0	Jeffrey pine, ponderosa pine
392: Ulhalf-----	Douglas fir----- ponderosa pine----- white fir-----	97 97 70	86 100 157	Douglas fir, ponderosa pine
Deadwood, very gravelly sandy loam-----	canyon live oak----- Douglas fir----- incense cedar----- ponderosa pine----- sugar pine-----	--- --- --- 40 ---	0 0 0 29 0	---
Penstock, very gravelly sandy loam-----	Douglas fir----- Jeffrey pine----- white fir-----	92 87 58	72 86 114	white fir
393: Ulhalf-----	incense cedar----- Jeffrey pine----- ponderosa pine-----	--- 82 ---	0 72 0	Jeffrey pine, ponderosa pine
Gavel-----	Jeffrey pine----- western juniper-----	71 ---	57 0	---

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
Southpac, very stony loam-----	incense cedar----- Jeffrey pine----- ponderosa pine-----	--- 78 ---	0 72 0	Jeffrey pine, ponderosa pine
394: Ulhalf-----	incense cedar----- Jeffrey pine----- ponderosa pine-----	--- 82 ---	0 72 0	Jeffrey pine, ponderosa pine
Southpac-----	incense cedar----- Jeffrey pine----- ponderosa pine-----	--- 78 ---	0 72 0	Jeffrey pine, ponderosa pine
Rock outcrop-----	---	---	---	---
398: Weste-----	Jeffrey pine----- sugar pine----- white fir-----	101 --- 53	100 0 100	Jeffrey pine, white fir
Baileycreek-----	Jeffrey pine----- white fir-----	112 ---	129 0	Jeffrey pine
Tahand-----	Jeffrey pine----- white fir-----	107 60	114 129	Jeffrey pine, white fir
Rubble land-----	---	---	---	---
Rock outcrop-----	---	---	---	---
399: Weste-----	Jeffrey pine----- white fir-----	82 ---	72 0	Jeffrey pine
Rock outcrop-----	---	---	---	---
Swainow, stony sandy loam-----	Jeffrey pine----- sugar pine----- white fir-----	94 --- ---	86 0 0	Jeffrey pine, white fir
Woodwest, very stony sandy loam-----	Jeffrey pine----- white fir-----	78 ---	72 0	Jeffrey pine
400: Whitinger-----	western juniper-----	25	29	---
Devada-----	---	---	---	---
Rubble land-----	---	---	---	---
Rock outcrop-----	---	---	---	---
Jauriga, gravelly loam--	---	---	---	---
Buckbay, gravelly loam--	western juniper-----	24	29	---
401: Whorled-----	Jeffrey pine----- white fir-----	--- 60	0 129	Jeffrey pine, white fir
Almanor-----	incense cedar----- Jeffrey pine----- sugar pine----- white fir-----	--- 83 --- 61	0 72 0 129	Jeffrey pine, sugar pine, white fir

TABLE 8.--FOREST PRODUCTIVITY--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
Tahand-----	Jeffrey pine-----	107	cu ft/ac 114	Jeffrey pine, white fir
	white fir-----	60	129	
Whorled-----	Jeffrey pine-----	---	0	Jeffrey pine, white fir
	white fir-----	60	129	
Rock outcrop-----	---	---	---	---

TABLE 9.--FORESTLAND MANAGEMENT

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
101: Almanor-----	40	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
Whorled-----	35	Moderate Restrictive layer Sandiness	0.50 0.50	Moderately suited Slope Sandiness	0.50 0.50	Slight Strength	0.10
Inville-----	20	Slight		Well suited		Slight Strength	0.10
Tahand-----	5	Severe Stoniness	1.00	Poorly suited Rock fragments Slope	1.00 0.50	Moderate Strength	0.50
111: Baileycreek-----	45	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
Weste-----	35	Moderate Restrictive layer Sandiness	0.50 0.50	Moderately suited Slope Sandiness	0.50 0.50	Slight Strength	0.10
Inville-----	10	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
Weste-----	5	Moderate Stoniness Restrictive layer Sandiness	0.50 0.50 0.50	Moderately suited Rock fragments Slope Sandiness	0.50 0.50 0.50	Slight Strength	0.10
Baileycreek-----	5	Moderate Stoniness	0.50	Moderately suited Rock fragments Slope	0.50 0.50	Slight Strength	0.10
112: Baileycreek-----	50	Severe Stoniness Slope	1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Weste-----	35	Severe Stoniness Restrictive layer Slope Sandiness	1.00 0.50 0.50 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50	Slight Strength	0.10
Swainow-----	5	Moderate Slope Restrictive layer	0.50 0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Weste-----	3	Severe Stoniness Restrictive layer Slope Sandiness	1.00 0.50 0.50 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50	Slight Strength	0.10
Baileycreek-----	2	Severe Stoniness Slope	1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
113:							
Baileycreek-----	50	Severe Slope Stoniness	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Waste-----	35	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Rubble land-----	5	Not rated		Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Swainow-----	5	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
124:							
Bonta-----	80	Slight		Moderately suited Slope	0.50	Moderate Strength	0.50
Janile-----	10	Moderate Stoniness Sandiness	0.50 0.50	Poorly suited Rock fragments Slope Sandiness	1.00 0.50 0.50	Moderate Strength	0.50
Lasco-----	10	Slight		Moderately suited Slope	0.50	Moderate Strength	0.50
125:							
Bonta-----	80	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Lasco-----	10	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Bonta-----	5	Moderate Slope Stoniness	0.50 0.50	Poorly suited Rock fragments Slope	1.00 1.00	Moderate Strength	0.50
126:							
Bonta-----	75	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
Bonta-----	5	Severe Slope Stoniness	1.00 0.50	Poorly suited Rock fragments Slope	1.00 1.00	Moderate Strength	0.50
Lasco-----	5	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
Waterman-----	5	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Moderate Strength	0.50
Gerle-----	5	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
Chimney-----	5	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
133:							
Buckbay-----	35	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Orhood-----	25	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Devada-----	20	Severe Restrictive layer Stoniness	1.00 0.50	Moderately suited Rock fragments Slope	0.50 0.50	Slight Strength	0.10
Fredonyer-----	4	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Longcreek-----	4	Severe Restrictive layer Stoniness Slope Stickiness/slope Strength	1.00 0.50 0.50 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Ninemile-----	4	Severe Stoniness Restrictive layer Stickiness/slope Strength	1.00 1.00 0.50 0.50	Moderately suited Slope Stickiness Strength	0.50 0.50 0.50	Severe Strength	1.00
Petescreek-----	4	Moderate Stoniness Slope	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Moderate Strength	0.50
Puls-----	4	Severe Restrictive layer Strength Stickiness/slope	1.00 0.50 0.50	Moderately suited Rock fragments Strength Slope	0.50 0.50 0.50	Moderate Strength	0.50
134:							
Buckbay-----	40	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Orhood-----	25	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Fredonyer-----	20	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Searles-----	8	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Jauriga-----	7	Slight		Moderately suited Slope	0.50	Moderate Strength	0.50

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
136:							
Bunanch-----	90	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Ulhalf-----	5	Severe Stoniness Slope	1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Jauriga-----	4	Slight		Moderately suited Slope	0.50	Moderate Strength	0.50
Keddie-----	1	Moderate Strength	0.50	Poorly suited Wetness Strength	1.00 0.50	Severe Strength	1.00
137:							
Cagwin-----	85	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Penstock-----	5	Moderate Stoniness Slope	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Quartzburg-----	3	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50	Moderate Strength	0.50
Cagwin-----	3	Moderate Slope Stoniness	0.50 0.50	Poorly suited Rock fragments Slope	1.00 1.00	Slight	
Lasco-----	2	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Cagwin-----	2	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
138:							
Cagwin-----	85	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
Cagwin family-----	3	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
Penstock family-----	5	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Lasco-----	5	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
Cagwin-----	1	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
Quartzburg-----	1	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50	Moderate Strength	0.50

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
152: Chimney-----	90	Slight		Moderately suited Slope	0.50	Moderate Strength	0.50
Mottsville-----	6	Moderate Sandiness	0.50	Moderately suited Sandiness Slope	0.50 0.50	Moderate Strength	0.50
Rock outcrop-----	4	Not rated		Not rated		Not rated	
153: Chimney-----	85	Slight		Moderately suited Slope	0.50	Moderate Strength	0.50
Bonta-----	8	Slight		Moderately suited Slope	0.50	Moderate Strength	0.50
Mottsville-----	7	Moderate Sandiness	0.50	Moderately suited Slope Sandiness	0.50 0.50	Moderate Strength	0.50
154: Chimney-----	35	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
Janile-- -----	35	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50	Moderate Strength	0.50
Waterman-----	15	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Moderate Strength	0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Mottsville-----	5	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Moderate Strength	0.50
Bonta-----	5	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
155: Chimney-----	40	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
Janile-----	30	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50	Moderate Strength	0.50
Waterman-----	15	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Moderate Strength	0.50
Chimney-----	8	Severe Slope Stoniness	1.00 0.50	Poorly suited Rock fragments Slope	1.00 1.00	Moderate Strength	0.50
Rock outcrop-----	7	Not rated		Not rated		Not rated	

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
156: Chimney-----	65	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Waterman-----	20	Severe Restrictive layer Stoniness	1.00 0.50	Poorly suited Rock fragments Slope	1.00 0.50	Moderate Strength	0.50
Mottsville-----	5	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Moderate Strength	0.50
Massack-----	5	Moderate Flooding Strength	0.50 0.50	Moderately suited Flooding Strength Wetness	0.50 0.50 0.50	Severe Strength	1.00
Calpine-----	5	Slight		Moderately suited Slope	0.50	Moderate Strength	0.50
157: Chirpchatter-----	85	Slight		Moderately suited Slope	0.50	Moderate Strength	0.50
Ulhalf family-----	8	Severe Stoniness	1.00	Poorly suited Rock fragments Slope	1.00 0.50	Slight Strength	0.10
Gavel family-----	7	Slight		Moderately suited Slope	0.50	Moderate Strength	0.50
172: Devada-----	60	Severe Stoniness Restrictive layer Slope Stickiness/slope Strength	1.00 1.00 0.50 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50	Slight Strength	0.10
Gavel-----	35	Moderate Stoniness Slope	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Moderate Strength	0.50
Ulhalf-----	5	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
173: Devada-----	40	Severe Stoniness Restrictive layer	1.00 1.00	Poorly suited Rock fragments Slope	1.00 0.50	Slight Strength	0.10
Gavel-----	25	Moderate Stoniness Slope	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Moderate Strength	0.50
Whitinger-----	15	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Rubble land-----	4	Not rated		Not rated		Not rated	
Rock outcrop-----	4	Not rated		Not rated		Not rated	
Petescreek-----	4	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Orhood-----	4	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Bucklake-----	4	Severe Restrictive layer Stoniness Slope Strength	1.00 1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
176: Devada-----	30	Severe Stoniness Restrictive layer	1.00 1.00	Moderately suited Rock fragments Slope	0.50 0.50	Slight Strength	0.10
Orhood-----	30	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Hart Camp-----	25	Moderate Slope	0.50	Poorly suited Slope Strength	1.00 0.50	Severe Strength	1.00
Jauriga-----	4	Slight		Moderately suited Slope	0.50	Moderate Strength	0.50
Fiddler-----	4	Severe Restrictive layer Stoniness Slope Strength	1.00 1.00 0.50 0.50	Poorly suited Slope Rock fragments Strength	1.00 1.00 0.50	Moderate Strength	0.50
Searles-----	3	Severe Stoniness Restrictive layer	1.00 0.50	Poorly suited Rock fragments Slope	1.00 0.50	Slight Strength	0.10
Rock outcrop-----	2	Not rated		Not rated		Not rated	
Aquolls-----	1	Severe Wetness	1.00	Poorly suited Wetness	1.00	Moderate Wetness Strength	0.50 0.50
Rubble land-----	1	Not rated		Not rated		Not rated	
177: Devada-----	40	Severe Slope Stoniness Strength	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Papeek-----	30	Severe Slope Strength	1.00 0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Gavel-----	20	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Moderate Strength	0.50

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Whitinger-----	5	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Gavel-----	5	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Moderate Strength	0.50
178: Devada-----	40	Severe Stoniness Restrictive layer	1.00 1.00	Poorly suited Rock fragments Slope	1.00 0.50	Slight Strength	0.10
Petescreek-----	25	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Fiddler-----	20	Severe Stoniness Restrictive layer Slope Strength	1.00 1.00 0.50 0.50	Poorly suited Rock fragments Slope Strength	1.00 1.00 0.50	Moderate Strength	0.50
Longcreek-----	3	Severe Restrictive layer Stoniness Slope Strength Stickiness/slope	1.00 1.00 0.50 0.50 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Fredonyer-----	3	Severe Restrictive layer Stoniness Slope	1.00 1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Bucklake-----	3	Moderate Restrictive layer	0.50	Moderately suited Slope Rock fragments	0.50 0.50	Slight Strength	0.10
Dune land-----	2	Not rated		Not rated		Not rated	
Tunnison-----	2	Moderate Slope Stickiness/slope Restrictive layer Strength	0.50 0.50 0.50 0.50	Poorly suited Slope Rock fragments Stickiness Strength	1.00 0.50 0.50 0.50	Severe Strength	1.00
Madeline-----	2	Severe Restrictive layer Stoniness Slope Strength Stickiness/slope	1.00 1.00 0.50 0.50 0.50	Poorly suited Slope Rock fragments Strength	1.00 1.00 0.50	Severe Strength	1.00
184: Eaglelake-----	85	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
Outland-----	5	Severe Stoniness	1.00	Moderately suited Rock fragments Slope	0.50 0.50	Slight Strength	0.10
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Eaglelake-----	5	Severe Stoniness	1.00	Poorly suited Rock fragments Slope	1.00 0.50	Slight Strength	0.10

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
185: Eaglelake-----	50	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Outland-----	25	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Weste-----	15	Severe Stoniness Restrictive layer Slope Sandiness	1.00 1.00 0.50 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50	Slight Strength	0.10
Inville-----	5	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Outland-----	3	Severe Stoniness Slope	1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Rock outcrop-----	2	Not rated		Not rated		Not rated	
186: Eaglelake-----	45	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
Outland-----	25	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
Weste-----	15	Severe Slope Stoniness	1.00 1.00	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50	Slight Strength	0.10
Rubble land-----	5	Not rated		Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Easte-----	5	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
187: Eaglelake-----	45	Moderate Slope Strength	0.50 0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Outland-----	25	Moderate Stoniness Slope	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Weste-----	15	Severe Restrictive layer Stoniness Slope Sandiness	1.00 0.50 0.50 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50	Slight Strength	0.10
Rubble land-----	5	Not rated		Not rated		Not rated	
Easte-----	4	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Outland-----	3	Moderate Stoniness Slope	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Weste-----	3	Severe Stoniness Restrictive layer Slope Sandiness	1.00 1.00 0.50 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50	Slight Strength	0.10
188: Eaglelake-----	45	Severe Slope Strength	1.00 0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Outland-----	25	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Weste-----	15	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50	Slight Strength	0.10
Deadwood-----	8	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Eaglelake-----	7	Severe Slope Stoniness Strength	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
189: Easte-----	55	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
Fredonyer-----	30	Severe Slope Stoniness	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Petescreek-----	4	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
Glean-----	3	Severe Slope Stoniness	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Said-----	3	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
Rubble land-----	2	Not rated		Not rated		Not rated	
Xerolls-----	2	Severe Slope	1.00	Poorly suited Slope Wetness	1.00 1.00	Moderate Strength	0.50
Eaglelake family----	1	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
190: Easte-----	50	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Rcop-----	35	Severe Stoniness Restrictive layer Slope	1.00 0.50 0.50	Poorly suited Rock fragments Slope	1.00 1.00	Slight Strength	0.10
Rock outcrop-----	4	Not rated		Not rated		Not rated	

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Outland-----	4	Moderate Stoniness Slope	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Rubble land-----	3	Not rated		Not rated		Not rated	
Roop-----	2	Severe Stoniness Restrictive layer Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Easte-----	2	Severe Slope Stoniness	1.00 1.00	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50	Slight Strength	0.10
191: Easte-----	50	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Roop-----	40	Severe Slope Stoniness	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Outland-----	5	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Rock outcrop-----	3	Not rated		Not rated		Not rated	
Rubble land-----	2	Not rated		Not rated		Not rated	
194: Fiddler-----	35	Severe Restrictive layer Stoniness Slope Strength	1.00 0.50 0.50 0.50	Poorly suited Slope Rock fragments Strength	1.00 0.50 0.50	Moderate Strength	0.50
Gavel-----	30	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Rubble land-----	15	Not rated		Not rated		Not rated	
Devada-----	7	Severe Restrictive layer Stoniness Slope Strength Stickiness/slope	1.00 0.50 0.50 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Orhood-----	6	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Rock outcrop-----	3	Not rated		Not rated		Not rated	
Whitinger-----	2	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Said-----	2	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
195: Fiddler-----	40	Severe Slope Stoniness Strength	1.00 0.50 0.50	Poorly suited Slope Rock fragments Strength	1.00 0.50 0.50	Moderate Strength	0.50
Gavel-----	25	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
Rubble land-----	15	Not rated		Not rated		Not rated	
Orhood-----	5	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Devada-----	5	Severe Slope Stoniness Strength	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Rock outcrop-----	4	Not rated		Not rated		Not rated	
Whitinger-----	4	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Said-----	2	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
196: Fiddler-----	45	Severe Restrictive layer Stoniness Slope Strength	1.00 0.50 0.50 0.50	Poorly suited Slope Rock fragments Strength	1.00 0.50 0.50	Moderate Strength	0.50
Madeline-----	35	Severe Stoniness Restrictive layer Slope Stickiness/slope Strength	1.00 1.00 0.50 0.50 0.50	Poorly suited Rock fragments Slope Strength	1.00 1.00 0.50	Severe Strength	1.00
Orhood-----	5	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Devada-----	5	Severe Stoniness Restrictive layer Slope Stickiness/slope Strength	1.00 1.00 0.50 0.50 0.50	Poorly suited Rock fragments Slope	1.00 1.00	Slight Strength	0.10
Rock outcrop-----	4	Not rated		Not rated		Not rated	
Fivesprings-----	3	Severe Stoniness Restrictive layer	1.00 0.50	Poorly suited Rock fragments Slope	1.00 0.50	Slight Strength	0.10
Petescreek-----	3	Slight		Moderately suited Slope	0.50	Slight Strength	0.10

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
197:							
Fiddler-----	30	Severe		Poorly suited		Moderate	
		Restrictive layer	1.00	Slope	1.00	Strength	0.50
		Stoniness	0.50	Rock fragments	0.50		
		Slope	0.50	Strength	0.50		
		Strength	0.50				
Orhood-----	30	Severe		Moderately suited		Slight	
		Stoniness	1.00	Rock fragments	0.50	Strength	0.10
		Restrictive layer	1.00	Slope	0.50		
Petescreek-----	25	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Strength	0.10
Home Camp-----	5	Moderate		Moderately suited		Moderate	
		Stoniness	0.50	Rock fragments	0.50	Strength	0.50
		Restrictive layer	0.50	Slope	0.50		
Fredonyer-----	4	Severe		Poorly suited		Slight	
		Stoniness	1.00	Rock fragments	1.00	Strength	0.10
		Restrictive layer	1.00	Slope	1.00		
		Slope	0.50				
Buckbay-----	3	Moderate		Poorly suited		Moderate	
		Slope	0.50	Slope	1.00	Strength	0.50
Badenaugh-----	3	Moderate		Moderately suited		Moderate	
		Stoniness	0.50	Rock fragments	0.50	Strength	0.50
				Slope	0.50		
207:							
Forgay-----	85	Moderate		Moderately suited		Slight	
		Sandiness	0.50	Sandiness	0.50	Strength	0.10
Mountmed, clay loam-	8	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Strength	1.00
		Strength	0.50	Flooding	1.00		
				Strength	0.50		
Urban land-----	7	Not rated		Not rated		Not rated	
208:							
Forgay-----	80	Moderate		Moderately suited		Slight	
		Sandiness	0.50	Sandiness	0.50	Strength	0.10
Urban land-----	5	Not rated		Not rated		Not rated	
Forgay-----	5	Moderate		Moderately suited		Slight	
		Stoniness	0.50	Rock fragments	0.50	Strength	0.10
		Sandiness	0.50	Sandiness	0.50		
Riverwash, extremely gravelly coarse sand-----	5	Not rated		Not rated		Not rated	
Fluvents-----	5	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Strength	1.00
				Strength	0.50		
211:							
Fraval-----	40	Moderate		Poorly suited		Slight	
		Slope	0.50	Slope	1.00	Strength	0.10

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Fredonyer-----	25	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Said-----	20	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Keddie, loam-----	3	Moderate Strength	0.50	Poorly suited Wetness Strength	1.00 0.50	Severe Strength	1.00
Rubble land-----	2	Not rated		Not rated		Not rated	
Rock outcrop-----	2	Not rated		Not rated		Not rated	
Searles, very stony loam-----	2	Severe Restrictive layer Stoniness Slope	1.00 1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Petescreek, gravelly loam-----	2	Moderate Stoniness Slope	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Moderate Strength	0.50
Ninemile, very stony loam-----	2	Severe Stoniness Restrictive layer Stickiness/slope Strength	1.00 1.00 0.50 0.50	Poorly suited Rock fragments Slope Stickiness Strength	1.00 0.50 0.50 0.50	Severe Strength	1.00
Orhood, very stony sandy loam-----	2	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
212: Fraval-----	60	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Said-----	30	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Fredonyer, very stony loam-----	3	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Ninemile, very stony loam-----	2	Severe Stoniness Restrictive layer Stickiness/slope Strength	1.00 1.00 0.50 0.50	Poorly suited Rock fragments Slope Stickiness Strength	1.00 0.50 0.50 0.50	Severe Strength	1.00
213: Fredonyer-----	45	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Whitinger-----	25	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Orhood-----	15	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Badenaugh, stony sandy loam-----	3	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Moderate Strength	0.50
Rubble land-----	2	Not rated		Not rated		Not rated	
Rock outcrop-----	2	Not rated		Not rated		Not rated	
Searles, very stony loam-----	2	Severe Slope Stoniness	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Petescreek, very gravelly loam-----	2	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Hapgood, stony loam-	2	Moderate Stoniness Slope Restrictive layer	0.50 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Moderate Strength	0.50
Fiddler, very stony loam-----	2	Severe Slope Stoniness Strength	1.00 0.50 0.50	Poorly suited Slope Rock fragments Strength	1.00 0.50 0.50	Moderate Strength	0.50
218: Gavel-----	85	Moderate Stoniness Slope	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Moderate Strength	0.50
Devada, very cobbly loam-----	8	Severe Restrictive layer Stoniness Slope Strength Stickiness/slope	1.00 0.50 0.50 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Searles, very stony loam-----	7	Severe Restrictive layer Stoniness Slope	1.00 1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
219: Gavel-----	55	Severe Slope Stoniness	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Devada-----	35	Severe Slope Stoniness Strength	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Devada, very cobbly loam-----	10	Severe Slope Stoniness Strength	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
223: Gerle-----	90	Slight		Well suited		Moderate Strength	0.50
Gerle, gravelly sandy loam-----	5	Slight		Well suited		Moderate Strength	0.50
Gerle-----	5	Moderate Stoniness	0.50	Moderately suited Rock fragments	0.50	Moderate Strength	0.50
224: Gerle-----	85	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
Gerle-----	5	Severe Slope Stoniness	1.00 0.50	Poorly suited Rock fragments Slope	1.00 1.00	Moderate Strength	0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Mottsville, gravelly loamy coarse sand--	5	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Moderate Strength	0.50
225: Gerle-----	50	Severe Slope Stoniness	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00	Moderate Strength	0.50
Gerle-----	25	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
Gerle-----	15	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
Rock outcrop-----	10	Not rated		Not rated		Not rated	
232: Hangtown-----	75	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Hangtown-----	5	Severe Slope Stoniness	1.00 0.50	Poorly suited Rock fragments Slope	1.00 1.00	Slight Strength	0.10
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Penstock, stony loam	5	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Scaribou, stony loam	5	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Deadwood, very gravelly sandy loam	5	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
256: Indiano-----	45	Severe Slope Stoniness Strength	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Zephan-----	30	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Moderate Strength	0.50
Duco-----	15	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Moderate Strength	0.50
Barnard, stony sandy loam-----	2	Moderate Stoniness Restrictive layer	0.50 0.50	Moderately suited Rock fragments Slope	0.50 0.50	Moderate Strength	0.50
Graufels, bouldery sand-----	2	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50	Moderate Strength	0.50
Glenbrook, gravelly loamy coarse sand--	2	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Moderate Strength	0.50
Glean, very stony loam-----	2	Severe Slope Stoniness	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Corral, very cobbly loam-----	2	Severe Slope Stoniness Strength	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
257: Inville-----	85	Slight		Well suited		Slight Strength	0.10
Mountmed, clay loam-	8	Severe Flooding Strength	1.00 0.50	Poorly suited Ponding Flooding Strength	1.00 1.00 0.50	Severe Strength	1.00
Swainow, very gravelly sandy loam	7	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
259: Jauriga-----	40	Slight		Moderately suited Slope	0.50	Moderate Strength	0.50
Buckbay-----	25	Slight		Moderately suited Slope	0.50	Moderate Strength	0.50
Fredonyer-----	20	Severe Restrictive layer Stoniness Slope	1.00 1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Rubble land-----	5	Not rated		Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Petescreek, gravelly loam-----	5	Moderate Stoniness Slope	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Moderate Strength	0.50
266: Lasco-----	90	Slight		Moderately suited Slope	0.50	Moderate Strength	0.50
Lasco-----	5	Moderate Stoniness	0.50	Moderately suited Rock fragments Slope	0.50 0.50	Moderate Strength	0.50
Scaribou, very gravelly loam-----	5	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
267: Lasco-----	95	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
Bonta, gravelly sandy loam-----	5	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
268: Lasco-----	90	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Waterman-----	5	Severe Restrictive layer Stoniness Slope Sandiness	1.00 0.50 0.50 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Moderate Strength	0.50
Dotta, gravelly loam	5	Slight		Moderately suited Slope	0.50	Moderate Strength	0.50
269: Lasco-----	65	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Bonta-----	25	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Chirpchatter, sandy loam-----	4	Slight		Moderately suited Slope	0.50	Moderate Strength	0.50
Chimney, gravelly loamy coarse sand--	3	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Cagwin-----	3	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope	1.00	Moderate Strength	0.50

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
298:							
Ninemile-----	30	Severe		Poorly suited		Moderate	
		Stoniness	1.00	Rock fragments	1.00	Strength	0.50
		Restrictive layer	1.00	Stickiness	0.50		
		Stickiness/slope	0.50	Strength	0.50		
		Strength	0.50				
Petescreek-----	30	Slight		Moderately suited		Moderate	
				Slope	0.50	Strength	0.50
Fiddler-----	25	Severe		Poorly suited		Moderate	
		Restrictive layer	1.00	Slope	1.00	Strength	0.50
		Stoniness	0.50	Rock fragments	0.50		
		Slope	0.50	Strength	0.50		
		Strength	0.50				
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Fredonyer, very stony loam-----	5	Severe		Poorly suited		Slight	
		Restrictive layer	1.00	Slope	1.00	Strength	0.10
		Stoniness	0.50	Rock fragments	0.50		
		Slope	0.50				
Devada, very stony loam-----	5	Severe		Poorly suited		Slight	
		Stoniness	1.00	Rock fragments	1.00	Strength	0.10
		Restrictive layer	1.00	Slope	1.00		
		Slope	0.50				
		Stickiness/slope	0.50				
		Strength	0.50				
299:							
Ninemile-----	50	Severe		Moderately suited		Moderate	
		Restrictive layer	1.00	Rock fragments	0.50	Strength	0.50
		Stoniness	0.50	Stickiness	0.50		
		Stickiness/slope	0.50	Strength	0.50		
		Strength	0.50				
Weste-----	35	Moderate		Moderately suited		Slight	
		Sandiness	0.50	Sandiness	0.50	Strength	0.10
		Restrictive layer	0.50				
Mountmed, clay loam-	8	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Strength	1.00
		Strength	0.50	Flooding	1.00		
				Strength	0.50		
Rock outcrop-----	7	Not rated		Not rated		Not rated	
302:							
Orhood-----	80	Severe		Moderately suited		Slight	
		Stoniness	1.00	Rock fragments	0.50	Strength	0.10
		Restrictive layer	1.00	Slope	0.50		
Incy, fine sand-----	8	Moderate		Moderately suited		Moderate	
		Sandiness	0.50	Slope	0.50	Strength	0.50
				Sandiness	0.50		
Searles, very stony loam-----	6	Severe		Poorly suited		Slight	
		Stoniness	1.00	Rock fragments	1.00	Strength	0.10
		Restrictive layer	0.50	Slope	0.50		

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Puls, very stony loam-----	6	Severe Stoniness Restrictive layer Strength Stickiness/slope	1.00 1.00 0.50 0.50	Poorly suited Rock fragments Strength Slope	1.00 0.50 0.50	Moderate Strength	0.50
304: Outland-----	75	Severe Slope Stoniness	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Rock outcrop-----	10	Not rated		Not rated		Not rated	
Rubble land-----	10	Not rated		Not rated		Not rated	
Eaglelake, very gravelly loam-----	5	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
305: Outland-----	60	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
Outland-----	30	Severe Stoniness Slope	1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Eaglelake, very gravelly loam-----	5	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Rock outcrop-----	5	Not rated		Not rated		Not rated	
306: Outland-----	60	Moderate Stoniness Slope	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Penstock-----	25	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Deadwood, very gravelly sandy loam	8	Severe Restrictive layer Slope Sandiness	1.00 0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Easte, very gravelly sandy loam-----	7	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
307: Outland-----	60	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Penstock-----	25	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
Fiddler, very stony loam-----	8	Severe Slope	1.00	Poorly suited Slope	1.00	Slight	
Easte, deep to bedrock-----	7	Severe Slope	1.00	Poorly suited Slope	1.00	Slight	

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
308:							
Papeek-----	85	Moderate Slope Strength	0.50 0.50	Poorly suited Slope Strength	1.00 0.50	Severe Strength	1.00
Uhalf, very gravelly sandy loam	8	Severe Stoniness Slope	1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Papeek, clay loam---	7	Moderate Slope Strength	0.50 0.50	Poorly suited Slope Strength	1.00 0.50	Severe Strength	1.00
309:							
Papeek-----	95	Severe Slope Strength	1.00 0.50	Poorly suited Slope Strength	1.00 0.50	Severe Strength	1.00
Deadwood, very gravelly sandy loam	5	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
310:							
Penstock-----	65	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Deadwood-----	25	Severe Restrictive layer Slope Sandiness	1.00 0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Scaribou, very gravelly loam-----	5	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
311:							
Penstock-----	50	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
Deadwood-----	20	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Rock outcrop-----	15	Not rated		Not rated		Not rated	
Weste, very gravelly sandy loam-----	8	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Tahand-----	7	Severe Slope Stoniness	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00	Moderate Strength	0.50
312:							
Penstock, stony loam	50	Moderate Stoniness Slope	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Scaribou, stony loam	40	Moderate Stoniness Slope	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Inville, very gravelly loam-----	5	Slight		Well suited		Slight Strength	0.10
Aquolls, gravelly sandy loam-----	5	Severe Wetness	1.00	Poorly suited Wetness	1.00	Moderate Wetness Strength	0.50 0.50
313: Penstock, stony loam	45	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Scaribou, stony loam	40	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Deadwood, very gravelly sandy loam	8	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Rock outcrop-----	7	Not rated		Not rated		Not rated	
321: Petescreek-----	35	Moderate Stoniness Slope	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Orhood-----	25	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Fredonyer-----	20	Severe Stoniness Restrictive layer Slope	1.00 1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Searles, very cobbly loam-----	4	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Easte, very gravelly sandy loam-----	4	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Indiano, stony fine sandy loam-----	4	Severe Restrictive layer Stoniness Slope Strength	1.00 0.50 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Glean, very stony loam-----	4	Severe Stoniness Slope Restrictive layer	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Alomax, very stony sandy loam-----	4	Severe Restrictive layer Stoniness Slope	1.00 1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
323: Petescreek-----	45	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Searles-----	25	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Orhood-----	20	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Fredonyer, very stony loam-----	10	Severe Restrictive layer Stoniness Slope	1.00 1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
332: Quartzburg-----	60	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50	Moderate Strength	0.50
Scaribou-----	30	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
Rubble land-----	5	Not rated		Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated		Not rated	
337: Redriver-----	45	Moderate Sandiness Restrictive layer	0.50 0.50	Moderately suited Slope	0.50	Slight Strength	0.10
Gerle-----	35	Slight		Moderately suited Slope	0.50	Moderate Strength	0.50
Inville, very gravelly loam-----	10	Slight		Well suited		Slight Strength	0.10
Forgay, extremely gravelly sandy loam	10	Moderate Sandiness	0.50	Moderately suited Sandiness	0.50	Slight Strength	0.10
338: Redriver-----	50	Moderate Sandiness Restrictive layer	0.50 0.50	Moderately suited Sandiness Slope	0.50 0.50	Slight Strength	0.10
Weste-----	30	Moderate Sandiness Restrictive layer	0.50 0.50	Moderately suited Sandiness Slope	0.50 0.50	Slight Strength	0.10
Woodwest, very stony sandy loam-----	5	Severe Stoniness Restrictive layer	1.00 1.00	Moderately suited Rock fragments	0.50	Slight Strength	0.10

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Swainow, very gravelly sandy loam	5	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
Keddie, loam-----	5	Moderate Strength	0.50	Poorly suited Wetness Strength	1.00 0.50	Severe Strength	1.00
Inville, very gravelly loam-----	5	Slight		Well suited		Slight Strength	0.10
339: Redriver, stony sandy loam-----	50	Moderate Stoniness Sandiness Restrictive layer	0.50 0.50 0.50	Moderately suited Rock fragments	0.50	Moderate Strength	0.50
Woodwest-----	20	Severe Stoniness Restrictive layer	1.00 1.00	Moderately suited Rock fragments	0.50	Slight Strength	0.10
Wafila-----	15	Slight		Well suited		Moderate Strength	0.50
Inville, very gravelly loam-----	8	Slight		Well suited		Slight Strength	0.10
Rock outcrop-----	7	Not rated		Not rated		Not rated	
343: Rubble land-----	60	Not rated		Not rated		Not rated	
Fiddler-----	25	Severe Slope Stoniness Strength	1.00 0.50 0.50	Poorly suited Slope Rock fragments Strength	1.00 0.50 0.50	Moderate Strength	0.50
Orhood, very stony loam-----	8	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Rock outcrop-----	7	Not rated		Not rated		Not rated	
346: Rubble land-----	60	Not rated		Not rated		Not rated	
Weste-----	20	Severe Stoniness Restrictive layer Slope Sandiness	1.00 1.00 0.50 0.50	Poorly suited Rock fragments Slope Sandiness	1.00 1.00 0.50	Slight Strength	0.10
Gavel-----	5	Moderate Stoniness Slope	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Moderate Strength	0.50
Easte, gravelly loam	7	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Scaribou, very gravelly loam-----	3	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Outland, very stony loam-----	3	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Rock outcrop-----	2	Not rated		Not rated		Not rated	
351: Said-----	85	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Fredonyer, very stony loam-----	5	Severe Stoniness Restrictive layer Slope	1.00 1.00 0.50	Poorly suited Rock fragments Slope	1.00 1.00	Slight Strength	0.10
Easte, very gravelly sandy loam-----	5	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Ninemile, very cobble loam-----	3	Severe Restrictive layer Stickiness/slope Strength	1.00 0.50 0.50	Moderately suited Slope Stickiness Strength	0.50 0.50 0.50	Severe Strength	1.00
Petes creek, gravelly loam-----	2	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
352: Said-----	50	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
Fraval-----	35	Severe Slope	1.00	Poorly suited Slope Strength	1.00 0.50	Severe Strength	1.00
Easte, very gravelly sandy loam-----	8	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Deadwood family, very gravelly sandy loam-----	7	Severe Restrictive layer Slope Sandiness	1.00 0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
353: Said-----	60	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Ninemile-----	25	Severe Restrictive layer Stickiness/slope Strength	1.00 0.50 0.50	Moderately suited Stickiness Strength	0.50 0.50	Moderate Strength	0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Fredonyer, very stony loam-----	5	Severe Restrictive layer Stoniness Slope	1.00 1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Eaglelake, very gravelly loam-----	5	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
354: Scaribou-----	85	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Scaribou, stony loam	8	Moderate Stoniness Slope	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Penstock, stony loam	7	Moderate Stoniness	0.50	Moderately suited Rock fragments Slope	0.50 0.50	Slight Strength	0.10
355: Scaribou-----	55	Severe Slope Stoniness	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Penstock-----	20	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
Rock outcrop-----	15	Not rated		Not rated		Not rated	
Rubble land-----	5	Not rated		Not rated		Not rated	
Deadwood, very gravelly sandy loam	5	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
360: Searles-----	35	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Orhood-----	30	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Devada-----	20	Severe Restrictive layer Stoniness Slope Stickiness/slope Strength	1.00 0.50 0.50 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Bucklake, very stony loam-----	4	Severe Stoniness Restrictive layer Slope Strength	1.00 1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Fiddler, very stony loam-----	4	Severe Stoniness Restrictive layer Slope Strength	1.00 1.00 0.50 0.50	Poorly suited Rock fragments Slope Strength	1.00 1.00 0.50	Moderate Strength	0.50

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Fivesprings, very stony loam-----	3	Severe Restrictive layer Stoniness Slope	1.00 1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Rock outcrop-----	2	Not rated		Not rated		Not rated	
Xerolls, loamy coarse sand-----	2	Slight		Poorly suited Wetness Slope	1.00 0.50	Moderate Strength	0.50
364: Southpac-----	85	Severe Slope Stoniness	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Rock outcrop-----	8	Not rated		Not rated		Not rated	
Riverwash-----	4	Not rated		Not rated		Not rated	
Keddie, loam-----	3	Moderate Strength	0.50	Poorly suited Wetness Strength	1.00 0.50	Severe Strength	1.00
373: Swainow-----	40	Moderate Stoniness Slope	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Moderate Strength	0.50
Almanor-----	30	Moderate Stoniness Slope Restrictive layer Sandiness	0.50 0.50 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Tahand-----	20	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Whorled, very gravelly sandy loam	10	Severe Restrictive layer Slope Sandiness	1.00 0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
374: Swainow, very stony sandy loam-----	65	Severe Stoniness Slope	1.00 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50	Slight Strength	0.10
Almanor-----	20	Severe Stoniness Slope Sandiness Restrictive layer	1.00 0.50 0.50 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Keddie, loam-----	3	Moderate Strength	0.50	Poorly suited Wetness Strength	1.00 0.50	Severe Strength	1.00

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Almanor, very gravelly sandy loam	3	Severe Stoniness Slope Sandiness Restrictive layer	1.00 0.50 0.50 0.50	Poorly suited Rock fragments Slope	1.00 1.00	Slight Strength	0.10
Rock outcrop-----	3	Not rated		Not rated		Not rated	
Whorled, very gravelly sandy loam	4	Severe Restrictive layer Slope Sandiness	1.00 0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Tahand-----	2	Severe Stoniness Slope	1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Moderate Strength	0.50
375: Swainow-----	50	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
Redriver-----	35	Moderate Sandiness Restrictive layer	0.50 0.50	Moderately suited Slope	0.50	Slight Strength	0.10
Rubble land-----	5	Not rated		Not rated		Not rated	
Redriver-----	5	Moderate Stoniness Sandiness Restrictive layer	0.50 0.50 0.50	Moderately suited Rock fragments Slope	0.50 0.50	Slight Strength	0.10
Woodwest, very stony sandy loam-----	5	Severe Stoniness Restrictive layer	1.00 1.00	Moderately suited Rock fragments	0.50	Slight Strength	0.10
376: Swainow-----	55	Severe Slope Stoniness	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00	Moderate Strength	0.50
Tahand-----	35	Severe Slope Stoniness	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00	Moderate Strength	0.50
Urban land-----	5	Not rated		Not rated		Not rated	
Baileycreek, very bouldery loam-----	5	Severe Slope Stoniness	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
377: Tahand-----	45	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Baileycreek-----	35	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Rock outcrop-----	5	Not rated		Not rated		Not rated	

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Baileycreek, very stony loam-----	5	Severe Stoniness Slope	1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Weste, very stony sandy loam-----	5	Severe Stoniness Restrictive layer Slope Sandiness	1.00 0.50 0.50 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50	Slight Strength	0.10
Redriver, very gravelly sandy loam	5	Moderate Sandiness Restrictive layer	0.50 0.50	Moderately suited Slope	0.50	Slight Strength	0.10
378: Tahand-----	35	Slight		Moderately suited Slope	0.50	Moderate Strength	0.50
Swainow-----	30	Moderate Stoniness	0.50	Moderately suited Rock fragments Slope	0.50 0.50	Moderate Strength	0.50
Almanor-----	20	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Woodwest, very stony sandy loam-----	5	Severe Stoniness Restrictive layer	1.00 1.00	Moderately suited Rock fragments	0.50	Slight Strength	0.10
Keddie, loam-----	5	Moderate Strength	0.50	Poorly suited Wetness Strength	1.00 0.50	Severe Strength	1.00
382: Toiyabe-----	50	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
Lasco-----	20	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
Quartzburg-----	15	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50	Moderate Strength	0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Toiyabe-----	5	Severe Slope Stoniness	1.00 0.50	Poorly suited Rock fragments Slope	1.00 1.00	Moderate Strength	0.50
Outland, very stony loam-----	5	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
383: Toiyabe-----	55	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Moderate Strength	0.50

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Lasco-----	30	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
Bonta, coarse sandy loam-----	8	Slight		Moderately suited Slope	0.50	Moderate Strength	0.50
Toiyabe-----	7	Moderate Slope Stoniness Sandiness	0.50 0.50 0.50	Poorly suited Rock fragments Slope Sandiness	1.00 1.00 0.50	Moderate Strength	0.50
391: Ulhalf-----	85	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Strength	0.50
Inville, very gravelly loam-----	8	Slight		Well suited		Slight Strength	0.10
Southpac, very stony loam-----	7	Severe Slope Stoniness	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
392: Ulhalf-----	90	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
Deadwood, very gravelly sandy loam	5	Severe Restrictive layer Sandiness	1.00 0.50	Moderately suited Slope Sandiness	0.50 0.50	Slight Strength	0.10
Penstock, very gravelly sandy loam	5	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
393: Ulhalf-----	60	Severe Stoniness	1.00	Poorly suited Rock fragments	1.00	Slight Strength	0.10
Gavel-----	30	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
Southpac, very stony loam-----	10	Severe Stoniness	1.00	Poorly suited Rock fragments Slope	1.00 0.50	Slight Strength	0.10
394: Ulhalf-----	60	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
Southpac-----	30	Severe Stoniness Slope	1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Slight Strength	0.10
Rock outcrop-----	10	Not rated		Not rated		Not rated	
398: Weste-----	35	Severe Stoniness Restrictive layer Slope Sandiness	1.00 1.00 0.50 0.50	Poorly suited Rock fragments Slope Sandiness	1.00 1.00 0.50	Slight Strength	0.10

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Baileycreek-----	30	Severe Stoniness Slope	1.00 0.50	Poorly suited Rock fragments Slope	1.00 1.00	Slight Strength	0.10
Tahand-----	20	Severe Stoniness Slope	1.00 0.50	Poorly suited Rock fragments Slope	1.00 1.00	Moderate Strength	0.50
Rubble land-----	8	Not rated		Not rated		Not rated	
Rock outcrop-----	7	Not rated		Not rated		Not rated	
399: Weste-----	65	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Rock outcrop-----	15	Not rated		Not rated		Not rated	
Swainow, stony sandy loam-----	10	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Moderate Strength	0.50
Woodwest, very stony sandy loam-----	10	Severe Stoniness Restrictive layer	1.00 1.00	Moderately suited Rock fragments	0.50	Slight Strength	0.10
400: Whitinger-----	45	Severe Restrictive layer Stoniness Slope	1.00 0.50 0.50	Poorly suited Slope Rock fragments Strength	1.00 0.50 0.50	Severe Strength	1.00
Devada-----	35	Severe Restrictive layer Stoniness Slope Stickiness/slope Strength	1.00 0.50 0.50 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
Rubble land-----	5	Not rated		Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Jauriga, gravelly loam-----	5	Slight		Moderately suited Slope	0.50	Moderate Strength	0.50
Buckbay, gravelly loam-----	5	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Strength	0.50
401: Whorled-----	45	Severe Restrictive layer Slope Sandiness	1.00 0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Almanor-----	35	Moderate Slope Sandiness Restrictive layer	0.50 0.50 0.50	Poorly suited Slope	1.00	Slight Strength	0.10

TABLE 9.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Tahand-----	8	Severe Stoniness Slope	1.00 0.50	Poorly suited Slope Rock fragments	1.00 1.00	Moderate Strength	0.50
Whorled-----	7	Severe Restrictive layer Slope Stoniness Sandiness	1.00 0.50 0.50 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50	Slight Strength	0.10
Rock outcrop-----	5	Not rated		Not rated		Not rated	

TABLE 10.--FORESTLAND MANAGEMENT

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
101: Almanor-----	40	Slight		Slight		Moderately suited Slope	0.50
Whorled-----	35	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope Sandiness	0.50 0.50
Inville-----	20	Slight		Slight		Well suited	
Tahand-----	5	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope	1.00 0.50
111: Baileycreek-----	45	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Weste-----	35	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope Sandiness	0.50 0.50
Inville-----	10	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Weste-----	5	Slight		Moderate Slope/erodibility	0.50	Moderately suited Rock fragments Slope Sandiness	0.50 0.50 0.50
Baileycreek-----	5	Slight		Moderate Slope/erodibility	0.50	Moderately suited Rock fragments Slope	0.50 0.50
112: Baileycreek-----	50	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 1.00
Weste-----	35	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50
Swainow-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Weste-----	3	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50
Baileycreek-----	2	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 1.00
113: Baileycreek-----	50	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Weste-----	35	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Rubble land-----	5	Not rated		Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Swainow-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
124: Bonta-----	80	Slight		Severe Slope/erodibility	0.95	Moderately suited Slope	0.50
Janile-----	10	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope Sandiness	1.00 0.50 0.50
Lasco-----	10	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
125: Bonta-----	80	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Lasco-----	10	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Bonta-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Rock fragments Slope	1.00 1.00
126: Bonta-----	75	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Bonta-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Rock fragments Slope	1.00 1.00
Lasco-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Waterman-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Gerle-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Chimney-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
133: Buckbay-----	35	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Orhood-----	25	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Devada-----	20	Slight		Slight		Moderately suited Rock fragments Slope	0.50 0.50
Fredonyer-----	4	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Longcreek-----	4	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Ninemile-----	4	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope Stickiness Strength	0.50 0.50 0.50
Petescreek-----	4	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Puls-----	4	Slight		Moderate Slope/erodibility	0.50	Moderately suited Rock fragments Strength Slope	0.50 0.50 0.50
134: Buckbay-----	40	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Orhood-----	25	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Fredonyer-----	20	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Searles-----	8	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Jauriga-----	7	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
136: Bunanch-----	90	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Ulhalf-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Jauriga-----	4	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Keddie-----	1	Slight		Slight		Poorly suited Wetness Strength	1.00 0.50
137: Cagwin-----	85	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Penstock-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Quartzburg-----	3	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50
Cagwin-----	3	Moderate Slope/erodibility Slope/erodibility	0.50 0.50	Severe Slope/erodibility Slope/erodibility	0.95 0.95	Poorly suited Rock fragments Slope	1.00 1.00
Lasco-----	2	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Cagwin-----	2	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
138: Cagwin-----	85	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Cagwin family-----	3	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Penstock family-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Lasco-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Cagwin-----	1	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Quartzburg-----	1	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50
152: Chimney-----	90	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Mottsville-----	6	Slight		Moderate Slope/erodibility	0.50	Moderately suited Sandiness Slope	0.50 0.50
Rock outcrop-----	4	Not rated		Not rated		Not rated	
153: Chimney-----	85	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Bonta-----	8	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Mottsville-----	7	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope Sandiness	0.50 0.50
154: Chimney-----	35	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Janile-----	35	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Waterman-----	15	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Mottsville-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Bonta-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
155: Chimney-----	40	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Janile-----	30	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50
Waterman-----	15	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Chimney-----	8	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Rock fragments Slope	1.00 1.00
Rock outcrop-----	7	Not rated		Not rated		Not rated	
156: Chimney-----	65	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Waterman, very bouldery-----	20	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope	1.00 0.50
Mottsville-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Massack-----	5	Slight		Slight		Moderately suited Flooding Strength Wetness	0.50 0.50 0.50
Calpine-----	5	Slight		Severe Slope/erodibility	0.95	Moderately suited Slope	0.50
157: Chirpchatter-----	85	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Ulhalf family, extremely stony----	8	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope	1.00 0.50
Gavel family-----	7	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
172: Devada-----	60	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50
Gavel-----	35	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Ulhalf-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
173: Devada-----	40	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope	1.00 0.50
Gavel-----	25	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Whitinger-----	15	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Rubble land-----	4	Not rated		Not rated		Not rated	
Rock outcrop-----	4	Not rated		Not rated		Not rated	
Petescreek-----	4	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Orhood-----	4	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Bucklake-----	4	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 1.00
176: Devada-----	30	Slight		Moderate Slope/erodibility	0.50	Moderately suited Rock fragments Slope	0.50 0.50
Orhood-----	30	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Hart Camp-----	25	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Strength	1.00 0.50
Jauriga-----	4	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Fiddler-----	4	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments Strength	1.00 1.00 0.50
Searles-----	3	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope	1.00 0.50
Rock outcrop-----	2	Not rated		Not rated		Not rated	

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Aquolls-----	1	Slight		Moderate Slope/erodibility	0.50	Poorly suited Wetness	1.00
Rubble land-----	1	Not rated		Not rated		Not rated	
177: Devada-----	40	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Papeek-----	30	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Gavel-----	20	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Whitinger-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Gavel-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
178: Devada-----	40	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope	1.00 0.50
Petescreek-----	25	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Fiddler-----	20	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope Strength	1.00 1.00 0.50
Longcreek-----	3	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 1.00
Fredonyer-----	3	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 1.00
Bucklake-----	3	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope Rock fragments	0.50 0.50
Dune land-----	2	Not rated		Not rated		Not rated	
Tunnison-----	2	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments Stickiness Strength	1.00 0.50 0.50 0.50
Madeline-----	2	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments Strength	1.00 1.00 0.50
184: Eaglelake-----	85	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Outland-----	5	Slight		Slight		Moderately suited Rock fragments Slope	0.50 0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Eaglelake-----	5	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope	1.00 0.50
185: Eaglelake-----	50	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Outland-----	25	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope	1.00
Waste-----	15	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50
Inville-----	5	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope	1.00
Outland-----	3	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Rock outcrop-----	2	Not rated		Not rated		Not rated	
186: Eaglelake-----	45	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Outland-----	25	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Waste-----	15	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50
Rubble land-----	5	Not rated		Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Easte-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
187: Eaglelake-----	45	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Outland-----	25	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Waste-----	15	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50
Rubble land-----	5	Not rated		Not rated		Not rated	

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Easte-----	4	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Outland-----	3	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Weste-----	3	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50
188: Eaglelake-----	45	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Outland-----	25	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Weste-----	15	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50
Deadwood-----	8	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Eaglelake-----	7	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
189: Easte-----	55	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Fredonyer-----	30	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Petescreek-----	4	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Glean-----	3	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Said-----	3	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Rubble land-----	2	Not rated		Not rated		Not rated	
Xerolls-----	2	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Wetness	1.00 1.00
Eaglelake family----	1	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
190: Easte-----	50	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Roop-----	35	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Rock fragments Slope	1.00 1.00
Rock outcrop-----	4	Not rated		Not rated		Not rated	
Outland-----	4	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Rubble land-----	3	Not rated		Not rated		Not rated	
Roop-----	2	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Easte-----	2	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50
191: Easte-----	50	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Roop-----	40	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Outland-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Rock outcrop-----	3	Not rated		Not rated		Not rated	
Rubble land-----	2	Not rated		Not rated		Not rated	
194: Fiddler-----	35	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments Strength	1.00 0.50 0.50
Gavel-----	30	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Rubble land-----	15	Not rated		Not rated		Not rated	
Devada-----	7	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Orhood-----	6	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Rock outcrop-----	3	Not rated		Not rated		Not rated	
Whitinger-----	2	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Said-----	2	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
195: Fiddler-----	40	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments Strength	1.00 0.50 0.50
Gavel-----	25	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Rubble land-----	15	Not rated		Not rated		Not rated	
Orhood-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Devada-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Rock outcrop-----	4	Not rated		Not rated		Not rated	
Whitinger-----	4	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Said-----	2	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
196: Fiddler-----	45	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments Strength	1.00 0.50 0.50
Madeline-----	35	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Rock fragments Slope Strength	1.00 1.00 0.50
Orhood-----	5	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Devada-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Rock fragments Slope	1.00 1.00
Rock outcrop-----	4	Not rated		Not rated		Not rated	
Fivesprings-----	3	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope	1.00 0.50
Petescreek-----	3	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
197: Fiddler-----	30	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments Strength	1.00 0.50 0.50
Orhood-----	30	Slight		Moderate Slope/erodibility	0.50	Moderately suited Rock fragments Slope	0.50 0.50
Petescreek-----	25	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Home Camp-----	5	Slight		Moderate Slope/erodibility	0.50	Moderately suited Rock fragments Slope	0.50 0.50
Fredonyer-----	4	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope	1.00 1.00
Buckbay-----	3	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Badenaugh-----	3	Slight		Moderate Slope/erodibility	0.50	Moderately suited Rock fragments Slope	0.50 0.50
207: Forgay-----	85	Slight		Slight		Moderately suited Sandiness	0.50
Mountmed, clay loam-	8	Slight		Slight		Poorly suited Ponding Flooding Strength	1.00 1.00 0.50
Urban land-----	7	Not rated		Not rated		Not rated	
208: Forgay-----	80	Slight		Slight		Moderately suited Sandiness	0.50
Urban land-----	5	Not rated		Not rated		Not rated	
Forgay-----	5	Slight		Slight		Moderately suited Rock fragments Sandiness	0.50 0.50
Riverwash, extremely gravelly coarse sand-----	5	Not rated		Not rated		Not rated	
Fluvents-----	5	Slight		Slight		Poorly suited Flooding Strength	1.00 0.50
211: Fraval-----	40	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Fredonyer-----	25	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Said-----	20	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Keddie, loam-----	3	Slight		Slight		Poorly suited Wetness Strength	1.00 0.50
Rubble land-----	2	Not rated		Not rated		Not rated	
Rock outcrop-----	2	Not rated		Not rated		Not rated	

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Searles, very stony loam-----	2	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 1.00
Petescreek, gravelly loam-----	2	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Ninemile, very stony loam-----	2	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope Stickiness Strength	1.00 0.50 0.50 0.50
Orhood, very stony sandy loam-----	2	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
212: Fraval-----	60	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Said-----	30	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Fredonyer, very stony loam-----	3	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Ninemile, very stony loam-----	2	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope Stickiness Strength	1.00 0.50 0.50 0.50
213: Fredonyer-----	45	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Whitinger-----	25	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Orhood-----	15	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Badenaugh, stony sandy loam-----	3	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Rubble land-----	2	Not rated		Not rated		Not rated	
Rock outcrop-----	2	Not rated		Not rated		Not rated	

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Searles, very stony loam-----	2	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Petescreek, very gravelly loam-----	2	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Hapgood, stony loam-	2	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Fiddler, very stony loam-----	2	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments Strength	1.00 0.50 0.50
218: Gavel-----	85	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Devada, very cobbly loam-----	8	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Searles, very stony loam-----	7	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 1.00
219: Gavel-----	55	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Devada-----	35	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Devada, very cobbly loam-----	10	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
223: Gerle-----	90	Slight		Slight		Well suited	
Gerle, gravelly sandy loam-----	5	Slight		Slight		Well suited	
Gerle-----	5	Slight		Slight		Moderately suited Rock fragments	0.50
224: Gerle-----	85	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Gerle-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Rock fragments Slope	1.00 1.00
Rock outcrop-----	5	Not rated		Not rated		Not rated	

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Mottsville, gravelly loamy coarse sand--	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
225: Gerle-----	50	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Gerle-----	25	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Gerle-----	15	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Rock outcrop-----	10	Not rated		Not rated		Not rated	
232: Hangtown-----	75	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Hangtown-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Rock fragments Slope	1.00 1.00
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Penstock, stony loam	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Scaribou, stony loam	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Deadwood, very gravelly sandy loam	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
256: Indiano-----	45	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Zephan-----	30	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Duco-----	15	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Barnard, stony sandy loam-----	2	Slight		Moderate Slope/erodibility	0.50	Moderately suited Rock fragments Slope	0.50 0.50
Graufels, bouldery sand-----	2	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Glenbrook-----	2	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Glean, very stony loam-----	2	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Corral, very cobbly loam-----	2	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
257: Inville-----	85	Slight		Slight		Well suited	
Mountmed, clay loam-	8	Slight		Slight		Poorly suited Ponding Flooding Strength	1.00 1.00 0.50
Swainow, very gravelly sandy loam	7	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
259: Jauriga-----	40	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Buckbay-----	25	Slight		Severe Slope/erodibility	0.95	Moderately suited Slope	0.50
Fredonyer-----	20	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 1.00
Rubble land-----	5	Not rated		Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Petescreek, gravelly loam-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
266: Lasco-----	90	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Lasco-----	5	Slight		Moderate Slope/erodibility	0.50	Moderately suited Rock fragments Slope	0.50 0.50
Scaribou, very gravelly loam-----	5	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
267: Lasco-----	95	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Bonta, gravelly sandy loam-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
268:							
Lasco-----	90	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Waterman-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Dotta, gravelly loam	5	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
269:							
Lasco-----	65	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Bonta-----	25	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Chirp chatter, sandy loam-----	4	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Chimney, gravelly loamy coarse sand--	3	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Cagwin, loamy sand--	3	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
298:							
Ninemile-----	30	Slight		Slight		Poorly suited Rock fragments Stickiness Strength	1.00 0.50 0.50
Patescreek-----	30	Slight		Severe Slope/erodibility	0.95	Moderately suited Slope	0.50
Fiddler-----	25	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments Strength	1.00 0.50 0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Fredonyer, very stony loam-----	5	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Devada, very stony loam-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Rock fragments Slope	1.00 1.00
299:							
Ninemile-----	50	Slight		Slight		Moderately suited Rock fragments Stickiness Strength	0.50 0.50 0.50
Weste-----	35	Slight		Moderate Slope/erodibility	0.50	Moderately suited Sandiness	0.50

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Mountmed, clay loam-	8	Slight		Slight		Poorly suited Ponding Flooding Strength	1.00 1.00 0.50
Rock outcrop-----	7	Not rated		Not rated		Not rated	
302: Orhood-----	80	Slight		Moderate Slope/erodibility	0.50	Moderately suited Rock fragments Slope	0.50 0.50
Incy, fine sand-----	8	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope Sandiness	0.50 0.50
Searles, very stony loam-----	6	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope	1.00 0.50
Puls, very stony loam-----	6	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Strength Slope	1.00 0.50 0.50
304: Outland-----	75	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Rock outcrop-----	10	Not rated		Not rated		Not rated	
Rubble land-----	10	Not rated		Not rated		Not rated	
Eaglelake, very gravelly loam-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
305: Outland-----	60	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Outland-----	30	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 1.00
Eaglelake, very gravelly loam-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Rock outcrop-----	5	Not rated		Not rated		Not rated	
306: Outland-----	60	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Penstock-----	25	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Deadwood, very gravelly sandy loam	8	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Easte, very gravelly sandy loam-----	7	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
307: Outland-----	60	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Penstock-----	25	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Fiddler, very stony loam-----	8	Severe Slope/erodibility Slope/erodibility	0.75 0.75	Severe Slope/erodibility Slope/erodibility	0.95 0.95	Poorly suited Slope	1.00
Easte, deep to bedrock-----	7	Severe Slope/erodibility Slope/erodibility	0.75 0.75	Severe Slope/erodibility Slope/erodibility	0.95 0.95	Poorly suited Slope	1.00
308: Papeek-----	85	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Strength	1.00 0.50
Ulhalf, very gravelly sandy loam	8	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Papeek, clay loam---	7	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Strength	1.00 0.50
309: Papeek-----	95	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Strength	1.00 0.50
Deadwood, very gravelly sandy loam	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
310: Penstock-----	65	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Deadwood-----	25	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Scaribou, very gravelly loam-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
311: Penstock-----	50	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Deadwood-----	20	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Rock outcrop-----	15	Not rated		Not rated		Not rated	
Weste, very gravelly sandy loam-----	8	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Tahand-----	7	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
312: Penstock, stony loam	50	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Scaribou, stony loam	40	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Inville, very gravelly loam-----	5	Slight		Slight		Well suited	
Aquolls, gravelly sandy loam-----	5	Slight		Slight		Poorly suited Wetness	1.00
313: Penstock, stony loam	45	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Scaribou, stony loam	40	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Deadwood, very gravelly sandy loam	8	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Rock outcrop-----	7	Not rated		Not rated		Not rated	
321: Petescreek-----	35	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Orhood-----	25	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Fredonyer-----	20	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 1.00
Searles, very cobbly loam-----	4	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Easte, very gravelly sandy loam-----	4	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Indiano, stony fine sandy loam-----	4	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Glean, very stony loam-----	4	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Alomax, very stony sandy loam-----	4	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 1.00
323: Petescreek-----	45	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Searles-----	25	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Orhood-----	20	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Fredonyer, very stony loam-----	10	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 1.00
332: Quartzburg-----	60	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50
Scaribou-----	30	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Rubble land-----	5	Not rated		Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated		Not rated	
337: Redriver-----	45	Slight		Slight		Moderately suited Slope	0.50
Gerle-----	35	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Inville, very gravelly loam-----	10	Slight		Slight		Well suited	
Forgay, extremely gravelly sandy loam	10	Slight		Slight		Moderately suited Sandiness	0.50
338: Redriver-----	50	Slight		Slight		Moderately suited Sandiness Slope	0.50 0.50
Weste-----	30	Slight		Moderate Slope/erodibility	0.50	Moderately suited Sandiness Slope	0.50 0.50

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Woodwest, very stony sandy loam-----	5	Slight		Slight		Moderately suited Rock fragments	0.50
Swainow, very gravelly sandy loam	5	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Keddie, loam-----	5	Slight		Slight		Poorly suited Wetness Strength	1.00 0.50
Inville, very gravelly loam-----	5	Slight		Slight		Well suited	
339: Redriver, stony sandy loam-----	50	Slight		Slight		Moderately suited Rock fragments	0.50
Woodwest-----	20	Slight		Slight		Moderately suited Rock fragments	0.50
Wafle-----	15	Slight		Slight		Well suited	
Inville, very gravelly loam-----	8	Slight		Slight		Well suited	
Rock outcrop-----	7	Not rated		Not rated		Not rated	
343: Rubble land-----	60	Not rated		Not rated		Not rated	
Fiddler-----	25	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments Strength	1.00 0.50 0.50
Orhood, very stony loam-----	8	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Rock outcrop-----	7	Not rated		Not rated		Not rated	
346: Rubble land-----	60	Not rated		Not rated		Not rated	
Waste-----	20	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Rock fragments Slope Sandiness	1.00 1.00 0.50
Gavel-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
Easte, gravelly loam	7	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Scaribou, very gravelly loam-----	3	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Outland, very stony loam-----	3	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Rock outcrop-----	2	Not rated		Not rated		Not rated	
351: Said-----	85	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Fredonyer, very stony loam-----	5	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope	1.00 1.00
Easte, very gravelly sandy loam-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Ninemile, very cobble loam-----	3	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope Stickiness Strength	0.50 0.50 0.50
Petescreek, gravelly loam-----	2	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
352: Said-----	50	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Fraval-----	35	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Strength	1.00 0.50
Easte, very gravelly sandy loam-----	8	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Deadwood family, very gravelly sandy loam-----	7	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
353: Said-----	60	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Ninemile-----	25	Slight		Moderate Slope/erodibility	0.50	Moderately suited Stickiness Strength	0.50 0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Fredonyer, very stony loam-----	5	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 1.00
Eaglelake, very gravelly loam-----	5	Slight		Severe Slope/erodibility	0.95	Moderately suited Slope	0.50

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
354: Scaribou-----	85	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Scaribou, stony loam	8	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Penstock, stony loam	7	Slight		Moderate Slope/erodibility	0.50	Moderately suited Rock fragments Slope	0.50 0.50
355: Scaribou-----	55	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Penstock-----	20	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
Rubble land-----	5	Not rated		Not rated		Not rated	
Deadwood, very gravelly sandy loam	5	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
360: Searles-----	35	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Orhood-----	30	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Devada-----	20	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Bucklake, very stony loam-----	4	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 1.00
Fiddler, very stony loam-----	4	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope Strength	1.00 1.00 0.50
Fivesprings, very stony loam-----	3	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 1.00
Rock outcrop-----	2	Not rated		Not rated		Not rated	
Xerolls, loamy coarse sand-----	2	Slight		Moderate Slope/erodibility	0.50	Poorly suited Wetness Slope	1.00 0.50

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
364:							
Southpac-----	85	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Rock outcrop-----	8	Not rated		Not rated		Not rated	
Riverwash-----	4	Not rated		Not rated		Not rated	
Keddie, loam-----	3	Slight		Slight		Poorly suited Wetness Strength	1.00 0.50
373:							
Swainow-----	40	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Almanor-----	30	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Tahand-----	20	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Whorled, very gravelly sandy loam	10	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
374:							
Swainow, very stony sandy loam-----	65	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50
Almanor-----	20	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 1.00
Keddie, loam-----	3	Slight		Slight		Poorly suited Wetness Strength	1.00 0.50
Almanor, very gravelly sandy loam	3	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope	1.00 1.00
Rock outcrop-----	3	Not rated		Not rated		Not rated	
Whorled, very gravelly sandy loam	4	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Tahand-----	2	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
375:							
Swainow-----	50	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Redriver-----	35	Slight		Slight		Moderately suited Slope	0.50

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Rubble land-----	5	Not rated		Not rated		Not rated	
Redriver-----	5	Slight		Slight		Moderately suited Rock fragments Slope	0.50 0.50
Woodwest, very stony sandy loam-----	5	Slight		Slight		Moderately suited Rock fragments	0.50
376: Swainow-----	55	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Tahand-----	35	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Urban land-----	5	Not rated		Not rated		Not rated	
Baileycreek, very bouldery loam-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
377: Tahand, very gravelly loam-----	45	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Baileycreek-----	35	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Baileycreek, very stony loam-----	5	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 1.00
Weste, very stony sandy loam-----	5	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50
Redriver, very gravelly sandy loam	5	Slight		Slight		Moderately suited Slope	0.50
378: Tahand-----	35	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Swainow-----	30	Slight		Moderate Slope/erodibility	0.50	Moderately suited Rock fragments Slope	0.50 0.50
Almanor-----	20	Slight		Slight		Moderately suited Slope	0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Woodwest, very stony sandy loam-----	5	Slight		Slight		Moderately suited Rock fragments	0.50

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Keddie, loam-----	5	Slight		Slight		Poorly suited Wetness Strength	1.00 0.50
382: Toiyabe-----	50	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Lasco-----	20	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Quartzburg-----	15	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Toiyabe-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Rock fragments Slope	1.00 1.00
Outland, very stony loam-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
383: Toiyabe-----	55	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Lasco-----	30	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Bonta, coarse sandy loam-----	8	Slight		Severe Slope/erodibility	0.95	Moderately suited Slope	0.50
Toiyabe-----	7	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Rock fragments Slope Sandiness	1.00 1.00 0.50
391: Ulhalf-----	85	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Inville, very gravelly loam-----	8	Slight		Slight		Well suited	
Southpac, very stony loam-----	7	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
392: Ulhalf-----	90	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Deadwood, very GRAVELLY SANDY LOAM	5	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope Sandiness	0.50 0.50

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Penstock, very gravelly sandy loam	5	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
393: Ulhalf-----	60	Slight		Slight		Poorly suited Rock fragments	1.00
Gavel-----	30	Slight		Slight		Moderately suited Slope	0.50
Southpac, very stony loam-----	10	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope	1.00 0.50
394: Ulhalf-----	60	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Southpac-----	30	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 1.00
Rock outcrop-----	10	Not rated		Not rated		Not rated	
398: Weste-----	35	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope Sandiness	1.00 1.00 0.50
Baileycreek-----	30	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope	1.00 1.00
Tahand-----	20	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Rock fragments Slope	1.00 1.00
Rubble land-----	8	Not rated		Not rated		Not rated	
Rock outcrop-----	7	Not rated		Not rated		Not rated	
399: Weste-----	65	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
Swainow, stony sandy loam-----	10	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50

TABLE 10.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Woodwest, very stony sandy loam-----	10	Slight		Slight		Moderately suited Rock fragments	0.50
400: Whitinger-----	45	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments Strength	1.00 0.50 0.50
Devada-----	35	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
Rubble land-----	5	Not rated		Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Jauriga, gravelly loam-----	5	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Buckbay, gravelly loam-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
401: Whorled-----	45	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Almanor-----	35	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope	1.00
Tahand-----	8	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 1.00
Whorled-----	7	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	

TABLE 11.--FORESTLAND MANAGEMENT

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
101: Almanor-----	40	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Well suited	
Whorled-----	35	Moderately suited Sandiness	0.50	Moderately suited Rock fragments Sandiness Slope	0.50 0.50 0.50	Moderately suited Sandiness	0.50
Inville-----	20	Well suited		Moderately suited Rock fragments	0.50	Well suited	
Tahand-----	5	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.50	Poorly suited Rock fragments	1.00
111: Baileycreek-----	45	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
Weste-----	35	Moderately suited Sandiness Rock fragments	0.50 0.50	Moderately suited Rock fragments Slope Sandiness	0.50 0.50 0.50	Moderately suited Sandiness	0.50
Inville-----	10	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Well suited	
Weste-----	5	Moderately suited Rock fragments Sandiness	0.50 0.50	Poorly suited Rock fragments Slope Sandiness	0.75 0.50 0.50	Moderately suited Rock fragments Sandiness	0.50 0.50
Baileycreek-----	5	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Rock fragments	0.50
112: Baileycreek-----	50	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments Slope	1.00 0.50
Weste-----	35	Poorly suited Rock fragments Sandiness	0.75 0.50	Unsuited Rock fragments Slope Sandiness	1.00 0.75 0.50	Poorly suited Rock fragments Sandiness Slope	1.00 0.50 0.50
Swainow-----	5	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Weste-----	3	Poorly suited Rock fragments Sandiness	0.75 0.50	Unsuited Rock fragments Slope Sandiness	1.00 0.75 0.50	Poorly suited Rock fragments Sandiness Slope	1.00 0.50 0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Baileycreek-----	2	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments Slope	1.00 0.50
113: Baileycreek-----	50	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00
Weste-----	35	Moderately suited Sandiness Slope	0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50
Rubble land-----	5	Not rated		Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Swainow-----	5	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
124: Bonta-----	80	Well suited		Moderately suited Slope	0.50	Well suited	
Janile-----	10	Moderately suited Rock fragments Sandiness	0.50 0.50	Poorly suited Rock fragments Slope Sandiness	0.75 0.50 0.50	Poorly suited Rock fragments Sandiness	1.00 0.50
Lasco-----	10	Well suited		Moderately suited Slope	0.50	Well suited	
125: Bonta-----	80	Well suited		Poorly suited Slope	0.75	Moderately suited Slope	0.50
Lasco-----	10	Well suited		Poorly suited Slope	0.75	Moderately suited Slope	0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Bonta-----	5	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Poorly suited Rock fragments Slope	1.00 0.50
126: Bonta-----	75	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
Bonta-----	5	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Rock fragments Slope	1.00 1.00
Lasco-----	5	Moderately suited Slope	0.50	Unsuited Slope	1.00	Poorly suited Slope	1.00
Waterman-----	5	Moderately suited Rock fragments Sandiness Slope	0.50 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Poorly suited Slope Rock fragments	1.00 1.00
Gerle-----	5	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Chimney-----	5	Moderately suited Slope	0.50	Unsuited Slope	1.00	Poorly suited Slope	1.00
133: Buckbay-----	35	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
Orhood-----	25	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Devada-----	20	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Stickiness Slope	1.00 0.50 0.50	Moderately suited Rock fragments	0.50
Fredonyer-----	4	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments	0.50
Longcreek-----	4	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 0.75 0.50	Moderately suited Rock fragments Slope	0.50 0.50
Ninemile-----	4	Poorly suited Stickiness Rock fragments	0.75 0.50	Poorly suited Stickiness Rock fragments Slope	0.75 0.75 0.50	Moderately suited Strength Stickiness	0.50 0.50
Petescreek-----	4	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments	0.50
Puls-----	4	Poorly suited Rock fragments Stickiness	0.75 0.75	Unsuited Rock fragments Stickiness Slope	1.00 0.75 0.50	Moderately suited Rock fragments Strength	0.50 0.50
134: Buckbay-----	40	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.50	Well suited	
Orhood-----	25	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments	0.50
Fredonyer-----	20	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments	0.50
Searles-----	8	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Jauriga-----	7	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
136: Bunanch-----	90	Moderately suited Stickiness	0.50	Poorly suited Slope Rock fragments Stickiness	0.75 0.50 0.50	Moderately suited Slope	0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ulhalf-----	5	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments Slope	1.00 0.50
Jauriga-----	4	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
Keddie-----	1	Well suited		Well suited		Moderately suited Strength	0.50
137: Cagwin-----	85	Moderately suited Sandiness	0.50	Poorly suited Slope Sandiness	0.75 0.50	Moderately suited Slope	0.50
Penstock-----	5	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Quartzburg-----	3	Moderately suited Rock fragments Sandiness Slope	0.50 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50
Cagwin-----	3	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Poorly suited Rock fragments Slope	1.00 0.50
Lasco-----	2	Well suited		Poorly suited Slope	0.75	Moderately suited Slope	0.50
Cagwin-----	2	Moderately suited Sandiness Slope	0.50 0.50	Unsuited Slope Sandiness	1.00 0.50	Poorly suited Slope	1.00
138: Cagwin-----	85	Moderately suited Sandiness Slope	0.50 0.50	Unsuited Slope Sandiness	1.00 0.50	Poorly suited Slope	1.00
Cagwin family-----	3	Moderately suited Sandiness Slope	0.50 0.50	Unsuited Slope Sandiness	1.00 0.50	Poorly suited Slope	1.00
Penstock family, very stony-----	5	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
Lasco-----	5	Moderately suited Slope	0.50	Unsuited Slope	1.00	Poorly suited Slope	1.00
Cagwin-----	1	Moderately suited Sandiness Slope	0.50 0.50	Unsuited Slope Sandiness	1.00 0.50	Poorly suited Slope	1.00
Quartzburg-----	1	Moderately suited Rock fragments Sandiness Slope	0.50 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50
152: Chimney-----	90	Well suited		Moderately suited Slope	0.50	Well suited	

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Mottsville-----	6	Moderately suited Sandiness	0.50	Moderately suited Sandiness Slope	0.50 0.50	Moderately suited Sandiness	0.50
Rock outcrop-----	4	Not rated		Not rated		Not rated	
153: Chimney-----	85	Well suited		Moderately suited Slope	0.50	Well suited	
Bonta-----	8	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
Mottsville-----	7	Moderately suited Sandiness	0.50	Moderately suited Slope Sandiness	0.50 0.50	Moderately suited Sandiness	0.50
154: Chimney-----	35	Moderately suited Slope	0.50	Unsuited Slope	1.00	Poorly suited Slope	1.00
Janile-----	35	Moderately suited Rock fragments Sandiness Slope	0.50 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50
Waterman-----	15	Moderately suited Rock fragments Sandiness	0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Poorly suited Rock fragments Slope	1.00 0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Mottsville-----	5	Moderately suited Sandiness	0.50	Poorly suited Slope Sandiness	0.75 0.50	Moderately suited Sandiness Slope	0.50 0.50
Bonta-----	5	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Moderately suited Slope	0.50
155: Chimney-----	40	Moderately suited Slope	0.50	Unsuited Slope	1.00	Poorly suited Slope	1.00
Janile-----	30	Moderately suited Rock fragments Slope Sandiness	0.50 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50
Waterman-----	15	Moderately suited Rock fragments Slope Sandiness	0.50 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Poorly suited Slope Rock fragments	1.00 1.00
Chimney-----	8	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Rock fragments Slope	1.00 1.00
Rock outcrop-----	7	Not rated		Not rated		Not rated	

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
156: Chimney-----	65	Well suited		Poorly suited Slope	0.75	Moderately suited Slope	0.50
Waterman-----	20	Moderately suited Rock fragments Sandiness	0.50 0.50	Poorly suited Rock fragments Slope Sandiness	0.75 0.50 0.50	Poorly suited Rock fragments	1.00
Mottsville-----	5	Moderately suited Sandiness	0.50	Poorly suited Slope Sandiness	0.75 0.50	Moderately suited Sandiness Slope	0.50 0.50
Massack-----	5	Well suited		Well suited		Moderately suited Strength	0.50
Calpine-----	5	Well suited		Moderately suited Slope	0.50	Well suited	
157: Chirpchatter-----	85	Well suited		Moderately suited Slope	0.50	Well suited	
Ulhalf family-----	8	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.50	Poorly suited Rock fragments	1.00
Gavel family-----	7	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Well suited	
172: Devada-----	60	Unsuited Rock fragments Stickiness Sandiness	1.00 0.50 0.50	Unsuited Rock fragments Slope Stickiness Sandiness	1.00 0.75 0.50 0.50	Poorly suited Rock fragments Sandiness Slope	1.00 0.50 0.50
Gavel-----	35	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Ulhalf-----	5	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
173: Devada-----	40	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Stickiness Slope	1.00 0.50 0.50	Poorly suited Rock fragments	1.00
Gavel-----	25	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Whitinger-----	15	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Rubble land-----	4	Not rated		Not rated		Not rated	
Rock outcrop-----	4	Not rated		Not rated		Not rated	

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Petescreek-----	4	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
Orhood-----	4	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Bucklake-----	4	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 0.75 0.50	Poorly suited Rock fragments Slope	1.00 0.50
176: Devada-----	30	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Stickiness Slope	1.00 0.50 0.50	Moderately suited Rock fragments	0.50
Orhood-----	30	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments	0.50
Hart Camp-----	25	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Strength Slope	0.50 0.50
Jauriga-----	4	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
Fiddler-----	4	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 0.75 0.50	Poorly suited Rock fragments Strength Slope	1.00 0.50 0.50
Searles-----	3	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.50	Poorly suited Rock fragments	1.00
Rock outcrop-----	2	Not rated		Not rated		Not rated	
Aquolls-----	1	Moderately suited Wetness	0.50	Poorly suited Wetness Rock fragments	0.75 0.50	Poorly suited Wetness	1.00
Rubble land-----	1	Not rated		Not rated		Not rated	
177: Devada-----	40	Poorly suited Rock fragments Stickiness Slope	0.75 0.50 0.50	Unsuited Slope Rock fragments Stickiness	1.00 1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50
Papeek-----	30	Moderately suited Stickiness Slope	0.50 0.50	Unsuited Slope Stickiness Rock fragments	1.00 0.50 0.50	Poorly suited Slope	1.00
Gavel-----	20	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
Whitinger-----	5	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Gavel-----	5	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
178: Devada-----	40	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Stickiness Slope	1.00 0.50 0.50	Poorly suited Rock fragments	1.00
Petescreek-----	25	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
Fiddler-----	20	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 0.75 0.50	Poorly suited Rock fragments Strength	1.00 0.50
Longcreek-----	3	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 0.75 0.50	Poorly suited Rock fragments Slope	1.00 0.50
Fredonyer-----	3	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments Slope	1.00 0.50
Bucklake-----	3	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Stickiness Slope	1.00 0.50 0.50	Moderately suited Rock fragments	0.50
Dune land-----	2	Not rated		Not rated		Not rated	
Tunnison-----	2	Poorly suited Rock fragments Stickiness	0.75 0.75	Unsuited Rock fragments Slope Stickiness	1.00 0.75 0.75	Moderately suited Rock fragments Strength Stickiness Slope	0.50 0.50 0.50 0.50
Madeline-----	2	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 0.75 0.50	Poorly suited Rock fragments Strength Slope	1.00 0.50 0.50
184: Eaglelake-----	85	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Well suited	
Outland-----	5	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Rock fragments	0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Eaglelake-----	5	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.50	Poorly suited Rock fragments	1.00
185: Eaglelake-----	50	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Outland-----	25	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Slope	0.50
Weste-----	15	Poorly suited Rock fragments Sandiness	0.75 0.50	Unsuited Rock fragments Slope Sandiness	1.00 0.75 0.50	Poorly suited Rock fragments Sandiness Slope	1.00 0.50 0.50
Inville-----	5	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Slope	0.50
Outland-----	3	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 1.00	Poorly suited Rock fragments Slope	1.00 0.50
Rock outcrop-----	2	Not rated		Not rated		Not rated	
186: Eaglelake-----	45	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
Outland-----	25	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope	1.00
Weste-----	15	Poorly suited Rock fragments Sandiness Slope	0.75 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 1.00 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50
Rubble land-----	5	Not rated		Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Easte-----	5	Moderately suited Sandiness Slope	0.50 0.50	Unsuited Slope Sandiness Rock fragments	1.00 0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50
187: Eaglelake-----	45	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
Outland-----	25	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments	0.50
Weste-----	15	Poorly suited Rock fragments Sandiness	0.75 0.50	Unsuited Rock fragments Slope Sandiness	1.00 0.75 0.50	Moderately suited Rock fragments Sandiness Slope	0.50 0.50 0.50
Rubble land-----	5	Not rated		Not rated		Not rated	
Easte-----	4	Moderately suited Sandiness	0.50	Poorly suited Slope Sandiness Rock fragments	0.75 0.50 0.50	Moderately suited Sandiness Slope	0.50 0.50
Outland-----	3	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments Slope	0.50 0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Weste-----	3	Poorly suited Rock fragments Sandiness	0.75 0.50	Unsuited Rock fragments Slope Sandiness	1.00 0.75 0.50	Poorly suited Rock fragments Sandiness Slope	1.00 0.50 0.50
188: Eaglelake-----	45	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
Outland-----	25	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
Weste-----	15	Poorly suited Rock fragments Sandiness Slope	0.75 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 1.00 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50
Deadwood-----	8	Moderately suited Sandiness Slope	0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50
Eaglelake-----	7	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
189: Easte-----	55	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
Fredonyer-----	30	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00
Petescreek-----	4	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
Glean-----	3	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00
Said-----	3	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
Rubble land-----	2	Not rated		Not rated		Not rated	
Xerolls-----	2	Moderately suited Slope	0.50	Unsuited Slope	1.00	Poorly suited Slope	1.00
Eaglelake family----	1	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
190: Easte-----	50	Moderately suited Sandiness	0.50	Poorly suited Slope Sandiness Rock fragments	0.75 0.50 0.50	Moderately suited Sandiness	0.50
Roop-----	35	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments	1.00

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Rock outcrop-----	4	Not rated		Not rated		Not rated	
Outland-----	4	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Rubble land-----	3	Not rated		Not rated		Not rated	
Roop-----	2	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments Slope	1.00 0.50
Easte-----	2	Poorly suited Rock fragments Sandiness Slope	0.75 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 1.00 0.50	Poorly suited Rock fragments Slope Sandiness	1.00 1.00 0.50
191: Easte-----	50	Moderately suited Sandiness Slope	0.50 0.50	Unsuited Slope Sandiness Rock fragments	1.00 0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50
Roop-----	40	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00
Outland-----	5	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
Rock outcrop-----	3	Not rated		Not rated		Not rated	
Rubble land-----	2	Not rated		Not rated		Not rated	
194: Fiddler-----	35	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 0.75 0.50	Moderately suited Rock fragments Strength	0.50 0.50
Gavel-----	30	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Well suited	
Rubble land-----	15	Not rated		Not rated		Not rated	
Devada-----	7	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 1.00 0.50	Moderately suited Rock fragments Slope	0.50 0.50
Orhood-----	6	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments	0.50
Rock outcrop-----	3	Not rated		Not rated		Not rated	
Whitinger-----	2	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments	0.50
Said-----	2	Well suited		Unsuited Slope Rock fragments	1.00 0.50	Moderately suited Slope	0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
195: Fiddler-----	40	Poorly suited Rock fragments Stickiness Slope	0.75 0.50 0.50	Unsuited Slope Rock fragments Stickiness	1.00 1.00 0.50	Poorly suited Slope Rock fragments Strength	1.00 0.50 0.50
Gavel-----	25	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope	1.00
Rubble land-----	15	Not rated		Not rated		Not rated	
Orhood-----	5	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 0.50
Devada-----	5	Poorly suited Rock fragments Stickiness Slope	0.75 0.50 0.50	Unsuited Slope Rock fragments Stickiness	1.00 1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50
Rock outcrop-----	4	Not rated		Not rated		Not rated	
Whitinger-----	4	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 0.50
Said-----	2	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
196: Fiddler-----	45	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 0.75 0.50	Moderately suited Rock fragments Strength	0.50 0.50
Madeline-----	35	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 0.75 0.50	Poorly suited Rock fragments Strength	1.00 0.50
Orhood-----	5	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments	0.50
Devada-----	5	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 0.75 0.50	Poorly suited Rock fragments	1.00
Rock outcrop-----	4	Not rated		Not rated		Not rated	
Fivesprings-----	3	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 0.50 0.50	Poorly suited Rock fragments	1.00
Petescreek-----	3	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
197: Fiddler-----	30	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 0.75 0.50	Moderately suited Rock fragments Strength Slope	0.50 0.50 0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Orhood-----	30	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.50	Moderately suited Rock fragments	0.50
Petes creek-----	25	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
Home Camp-----	5	Moderately suited Rock fragments Stickiness	0.50 0.50	Poorly suited Rock fragments Slope Stickiness	0.75 0.50 0.50	Moderately suited Rock fragments	0.50
Fredonyer-----	4	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments	1.00
Buckbay-----	3	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
Badenaugh-----	3	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Rock fragments	0.50
207: Forgay-----	85	Moderately suited Sandiness Rock fragments	0.50 0.50	Moderately suited Rock fragments Sandiness	0.50 0.50	Moderately suited Sandiness	0.50
Mountmed, clay loam-	8	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Strength	0.50
Urban land-----	7	Not rated		Not rated		Not rated	
208: Forgay-----	80	Moderately suited Sandiness Rock fragments	0.50 0.50	Moderately suited Rock fragments Sandiness	0.50 0.50	Moderately suited Sandiness	0.50
Urban land-----	5	Not rated		Not rated		Not rated	
Forgay-----	5	Moderately suited Sandiness Rock fragments	0.50 0.50	Poorly suited Rock fragments Sandiness	0.75 0.50	Moderately suited Rock fragments Sandiness	0.50 0.50
Riverwash, extremely gravelly coarse sand-----	5	Not rated		Not rated		Not rated	
Fluents-----	5	Well suited		Well suited		Moderately suited Strength	0.50
211: Fraval-----	40	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
Fredonyer-----	25	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Said-----	20	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Keddie, loam-----	3	Well suited		Well suited		Moderately suited Strength	0.50
Rubble land-----	2	Not rated		Not rated		Not rated	
Rock outcrop-----	2	Not rated		Not rated		Not rated	
Searles, very stony loam-----	2	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments Slope	1.00 0.50
Petescreek, gravelly loam-----	2	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Ninemile, very stony loam-----	2	Poorly suited Rock fragments Stickiness	0.75 0.75	Unsuited Rock fragments Stickiness Slope	1.00 0.75 0.50	Poorly suited Rock fragments Strength Stickiness	1.00 0.50 0.50
Orhood, very stony sandy loam-----	2	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments Slope	0.50 0.50
212: Fraval-----	60	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Well suited	
Said-----	30	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Well suited	
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Fredonyer, very stony loam-----	3	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.75	Moderately suited Rock fragments	0.50
Ninemile, very stony loam-----	2	Poorly suited Rock fragments Stickiness	0.75 0.75	Unsuited Rock fragments Stickiness Slope	1.00 0.75 0.50	Poorly suited Rock fragments Strength Stickiness	1.00 0.50 0.50
213: Fredonyer-----	45	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
Whitinger-----	25	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 0.50
Orhood-----	15	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 0.50
Badenaugh, STONY SANDY LOAM-----	3	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Rubble land-----	2	Not rated		Not rated		Not rated	
Rock outcrop-----	2	Not rated		Not rated		Not rated	
Searles, very stony loam-----	2	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00
Petescreek, very gravelly loam-----	2	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
Hapgood, stony loam-	2	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Fiddler, very stony loam-----	2	Poorly suited Rock fragments Stickiness Slope	0.75 0.50 0.50	Unsuited Slope Rock fragments Stickiness	1.00 1.00 0.50	Poorly suited Slope Rock fragments Strength	1.00 0.50 0.50
218: Gavel-----	85	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments	0.50
Devada, very cobbly loam-----	8	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 0.75 0.50	Moderately suited Rock fragments Slope	0.50 0.50
Searles, very stony loam-----	7	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments Slope	1.00 0.50
219: Gavel-----	55	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00
Devada-----	35	Poorly suited Rock fragments Stickiness Slope	0.75 0.50 0.50	Unsuited Slope Rock fragments Stickiness	1.00 1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50
Devada, very cobbly loam-----	10	Poorly suited Rock fragments Stickiness Slope	0.75 0.50 0.50	Unsuited Slope Rock fragments Stickiness	1.00 1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50
223: Gerle-----	90	Well suited		Moderately suited Rock fragments	0.50	Well suited	
Gerle, gravelly sandy loam-----	5	Well suited		Moderately suited Rock fragments	0.50	Well suited	
Gerle-----	5	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments	0.75	Moderately suited Rock fragments	0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
224: Gerle-----	85	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
Gerle-----	5	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Rock fragments Slope	1.00 1.00
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Mottsville, gravelly loamy coarse sand--	5	Moderately suited Sandiness Slope	0.50 0.50	Unsuited Slope Sandiness	1.00 0.50	Poorly suited Slope Sandiness	1.00 0.50
225: Gerle-----	50	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00
Gerle-----	25	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
Gerle-----	15	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
Rock outcrop-----	10	Not rated		Not rated		Not rated	
232: Hangtown-----	75	Poorly suited Rock fragments Sandiness Slope	0.75 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50
Hangtown-----	5	Unsuited Rock fragments Sandiness Slope	1.00 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 1.00 0.50	Poorly suited Rock fragments Slope	1.00 1.00
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Penstock-----	5	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
Scaribou, stony loam	5	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
Deadwood, VERY gravelly sandy loam	5	Moderately suited Sandiness Slope	0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50
256: Indiano-----	45	Moderately suited Rock fragments Slope Stickiness	0.50 0.50 0.50	Unsuited Slope Rock fragments Stickiness	1.00 0.75 0.50	Poorly suited Slope Rock fragments	1.00 0.50
Zephan-----	30	Moderately suited Rock fragments Stickiness Slope	0.50 0.50 0.50	Unsuited Slope Rock fragments Stickiness	1.00 0.75 0.50	Poorly suited Slope Rock fragments	1.00 0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Duco-----	15	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
Barnard, stony sandy loam-----	2	Poorly suited Stickiness Rock fragments	0.75 0.50	Poorly suited Rock fragments Stickiness Slope	0.75 0.75 0.50	Moderately suited Rock fragments	0.50
Graufels, bouldery sand-----	2	Moderately suited Rock fragments Sandiness Slope	0.50 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 1.00 0.50
Glenbrook-----	2	Moderately suited Sandiness Slope Restrictive layer	0.50 0.50 0.50	Unsuited Slope Sandiness	1.00 0.50	Poorly suited Slope Sandiness	1.00 0.50
Glean, very stony loam-----	2	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00
Corral, very cobbly loam-----	2	Poorly suited Rock fragments Slope Restrictive layer	0.75 0.50 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 0.50
257: Inville-----	85	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments	0.75	Well suited	
Mountmed, clay loam-	8	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Strength	0.50
Swainow, very gravelly sandy loam	7	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Well suited	
259: Jauriga-----	40	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
Buckbay-----	25	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Well suited	
Fredonyer-----	20	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments Slope	1.00 0.50
Rubble land-----	5	Not rated		Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Petescreek, gravelly loam-----	5	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments	0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
266: Lasco-----	90	Well suited		Moderately suited Slope	0.50	Well suited	
Lasco-----	5	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Rock fragments	0.50
Scaribou, very gravelly loam-----	5	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Well suited	
267: Lasco-----	95	Moderately suited Slope	0.50	Unsuited Slope	1.00	Poorly suited Slope	1.00
Bonta, gravelly sandy loam-----	5	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
268: Lasco-----	90	Well suited		Poorly suited Slope	0.75	Moderately suited Slope	0.50
Waterman-----	5	Moderately suited Rock fragments Sandiness	0.50 0.50	Poorly suited Slope Rock fragments Sandiness	0.75 0.75 0.50	Poorly suited Rock fragments Slope	1.00 0.50
Dotta, gravelly loam	5	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
269: Lasco-----	65	Well suited		Poorly suited Slope	0.75	Moderately suited Slope	0.50
Bonta-----	25	Well suited		Poorly suited Slope	0.75	Moderately suited Slope	0.50
Chirpchatter, sandy loam-----	4	Well suited		Moderately suited Slope	0.50	Well suited	
Chimney, gravelly loamy coarse sand--	3	Well suited		Poorly suited Slope	0.75	Moderately suited Slope	0.50
Cagwin-----	3	Moderately suited Sandiness	0.50	Poorly suited Slope Sandiness	0.75 0.50	Moderately suited Slope	0.50
298: Ninemile-----	30	Poorly suited Rock fragments Stickiness	0.75 0.75	Unsuited Rock fragments Stickiness	1.00 0.75	Poorly suited Rock fragments Strength Stickiness	1.00 0.50 0.50
Petescreek-----	30	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Well suited	

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Fiddler-----	25	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 0.75 0.50	Moderately suited Rock fragments Strength Slope	0.50 0.50 0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Fredonyer, very stony loam-----	5	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Devada, very stony loam-----	5	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 0.75 0.50	Poorly suited Rock fragments	1.00
299: Ninemile-----	50	Poorly suited Rock fragments Stickiness	0.75 0.75	Unsuited Rock fragments Stickiness	1.00 0.75	Moderately suited Rock fragments Strength Stickiness	0.50 0.50 0.50
Weste-----	35	Moderately suited Sandiness	0.50	Moderately suited Sandiness Rock fragments Slope	0.50 0.50 0.50	Moderately suited Sandiness	0.50
Mountmed, clay loam-	8	Moderately suited Stickiness	0.50	Moderately suited Stickiness	0.50	Moderately suited Strength	0.50
Rock outcrop-----	7	Not rated		Not rated		Not rated	
302: Orhood-----	80	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.50	Moderately suited Rock fragments	0.50
Incy, fine sand----	8	Moderately suited Sandiness	0.50	Moderately suited Slope Sandiness	0.50 0.50	Moderately suited Sandiness	0.50
Searles, very stony loam-----	6	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.50	Poorly suited Rock fragments	1.00
Puls, very stony loam-----	6	Poorly suited Rock fragments Stickiness	0.75 0.75	Unsuited Rock fragments Stickiness Slope	1.00 0.75 0.50	Poorly suited Rock fragments Strength	1.00 0.50
304: Outland-----	75	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00
Rock outcrop-----	10	Not rated		Not rated		Not rated	
Rubble land-----	10	Not rated		Not rated		Not rated	
Eaglelake, very gravelly loam-----	5	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
305: Outland-----	60	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
Outland-----	30	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments Slope	1.00 0.50
Eaglelake, very gravelly loam-----	5	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
306: Outland-----	60	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Penstock-----	25	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
Deadwood, very gravelly sandy loam	8	Moderately suited Sandiness	0.50	Poorly suited Slope Rock fragments Sandiness	0.75 0.50 0.50	Moderately suited Sandiness Slope	0.50 0.50
Easte, very gravelly sandy loam-----	7	Moderately suited Sandiness	0.50	Poorly suited Slope Sandiness Rock fragments	0.75 0.50 0.50	Moderately suited Sandiness Slope	0.50 0.50
307: Outland-----	60	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
Penstock-----	25	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
Fiddler, very stony loam-----	8	Moderately suited Slope	0.50	Unsuited Slope	1.00	Poorly suited Slope	1.00
Easte, deep to bedrock-----	7	Moderately suited Slope	0.50	Unsuited Slope	1.00	Poorly suited Slope	1.00
308: Papeek-----	85	Moderately suited Stickiness	0.50	Poorly suited Slope Stickiness	0.75 0.50	Moderately suited Strength Slope	0.50 0.50
Ulhalf, very gravelly sandy loam	8	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments	1.00
Papeek, clay loam---	7	Moderately suited Stickiness	0.50	Poorly suited Slope Stickiness	0.75 0.50	Moderately suited Strength Slope	0.50 0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
309: Papeek-----	95	Moderately suited Stickiness Slope	0.50 0.50	Unsuited Slope Stickiness	1.00 0.50	Poorly suited Slope Strength	1.00 0.50
Deadwood, very gravelly sandy loam	5	Moderately suited Sandiness Slope	0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50
310: Penstock-----	65	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
Deadwood-----	25	Moderately suited Sandiness	0.50	Poorly suited Slope Rock fragments Sandiness	0.75 0.50 0.50	Moderately suited Sandiness Slope	0.50 0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Scaribou, very gravelly loam-----	5	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Well suited	
311: Penstock-----	50	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
Deadwood-----	20	Moderately suited Sandiness Slope	0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
Weste, very gravelly sandy loam-----	8	Moderately suited Sandiness Slope	0.50 0.50	Unsuited Slope Sandiness Rock fragments	1.00 0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50
Tahand-----	7	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00
312: Penstock-----	50	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments	0.50
Scaribou, stony loam	40	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.75	Moderately suited Rock fragments	0.50
Inville, very gravelly loam-----	5	Well suited		Moderately suited Rock fragments	0.50	Well suited	
Aguolls, gravelly sandy loam-----	5	Moderately suited Wetness	0.50	Poorly suited Wetness Rock fragments	0.75 0.50	Poorly suited Wetness	1.00

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
313:							
Penstock-----	45	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	0.75	Rock fragments	0.50
Scaribou, stony loam	40	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	0.75	Rock fragments	0.50
Deadwood, very gravelly sandy loam	8	Moderately suited		Unsuited		Poorly suited	
		Sandiness	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	0.50	Sandiness	0.50
				Sandiness	0.50		
Rock outcrop-----	7	Not rated		Not rated		Not rated	
321:							
Petescreek-----	35	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Slope	0.75	Rock fragments	0.50
				Rock fragments	0.75	Slope	0.50
Orhood-----	25	Poorly suited		Unsuited		Moderately suited	
		Rock fragments	0.75	Rock fragments	1.00	Rock fragments	0.50
				Slope	0.75	Slope	0.50
Fredonyer-----	20	Poorly suited		Unsuited		Poorly suited	
		Rock fragments	0.75	Rock fragments	1.00	Rock fragments	1.00
				Slope	0.75	Slope	0.50
Searles, very cobbly loam-----	4	Poorly suited		Unsuited		Moderately suited	
		Rock fragments	0.75	Rock fragments	1.00	Rock fragments	0.50
				Slope	0.75	Slope	0.50
Easte, very gravelly sandy loam-----	4	Moderately suited		Poorly suited		Moderately suited	
		Sandiness	0.50	Slope	0.75	Sandiness	0.50
				Sandiness	0.50	Slope	0.50
				Rock fragments	0.50		
Indiano, stony fine sandy loam-----	4	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Slope	0.75	Rock fragments	0.50
		Stickiness	0.50	Rock fragments	0.75		
				Stickiness	0.50		
Glean, very stony loam-----	4	Poorly suited		Unsuited		Poorly suited	
		Rock fragments	0.75	Rock fragments	1.00	Rock fragments	1.00
				Slope	0.75		
Alomax, very stony sandy loam-----	4	Poorly suited		Unsuited		Poorly suited	
		Rock fragments	0.75	Rock fragments	1.00	Rock fragments	1.00
				Slope	0.75	Slope	0.50
323:							
Petescreek-----	45	Well suited		Poorly suited		Moderately suited	
				Slope	0.75	Slope	0.50
				Rock fragments	0.50		
Searles-----	25	Poorly suited		Unsuited		Moderately suited	
		Rock fragments	0.75	Rock fragments	1.00	Rock fragments	0.50
				Slope	0.75	Slope	0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Orhood-----	20	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Fredonyer, very stony loam-----	10	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments Slope	1.00 0.50
332: Quartzburg-----	60	Moderately suited Rock fragments Slope Sandiness	0.50 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50
Scaribou-----	30	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
Rubble land-----	5	Not rated		Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated		Not rated	
337: Redriver-----	45	Moderately suited Sandiness Rock fragments	0.50 0.50	Poorly suited Rock fragments Sandiness Slope	0.75 0.50 0.50	Well suited	
Gerle-----	35	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
Inville, very gravelly loam-----	10	Well suited		Moderately suited Rock fragments	0.50	Well suited	
Forgay, extremely gravelly sandy loam	10	Moderately suited Sandiness Rock fragments	0.50 0.50	Moderately suited Rock fragments Sandiness	0.50 0.50	Moderately suited Sandiness	0.50
338: Redriver-----	50	Moderately suited Sandiness Rock fragments	0.50 0.50	Poorly suited Rock fragments Sandiness Slope	0.75 0.50 0.50	Moderately suited Sandiness	0.50
Weste-----	30	Moderately suited Sandiness	0.50	Moderately suited Sandiness Rock fragments Slope	0.50 0.50 0.50	Moderately suited Sandiness	0.50
Woodwest, very stony sandy loam-----	5	Poorly suited Rock fragments Sandiness	0.75 0.50	Unsuited Rock fragments Sandiness	1.00 0.50	Moderately suited Rock fragments	0.50
Swainow, very gravelly sandy loam	5	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Well suited	
Keddle, loam-----	5	Well suited		Well suited		Moderately suited Strength	0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Inville, very gravelly loam-----	5	Well suited		Moderately suited Rock fragments	0.50	Well suited	
339: Redriver, stony sandy loam-----	50	Moderately suited Rock fragments Sandiness	0.50 0.50	Poorly suited Rock fragments Sandiness Slope	0.75 0.50 0.50	Moderately suited Rock fragments	0.50
Woodwest-----	20	Poorly suited Rock fragments Sandiness	0.75 0.50	Unsuited Rock fragments Sandiness	1.00 0.50	Moderately suited Rock fragments	0.50
Wafila-----	15	Well suited		Well suited		Well suited	
Inville, very gravelly loam-----	8	Well suited		Moderately suited Rock fragments	0.50	Well suited	
Rock outcrop-----	7	Not rated		Not rated		Not rated	
343: Rubble land-----	60	Not rated		Not rated		Not rated	
Fiddler-----	25	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 1.00 0.50	Moderately suited Rock fragments Slope Strength	0.50 0.50 0.50
Orhood, very stony loam-----	8	Poorly suited Rock fragments	0.75	Unsuited Slope Rock fragments	1.00 1.00	Moderately suited Rock fragments Slope	0.50 0.50
Rock outcrop-----	7	Not rated		Not rated		Not rated	
346: Rubble land-----	60	Not rated		Not rated		Not rated	
Waste-----	20	Poorly suited Rock fragments Sandiness	0.75 0.50	Unsuited Slope Rock fragments Sandiness	1.00 1.00 0.50	Poorly suited Rock fragments Slope Sandiness	1.00 0.50 0.50
Gavel-----	5	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments	0.50
Easte, gravelly loam	7	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Well suited	
Scaribou, very gravelly loam-----	3	Well suited		Unsuited Slope Rock fragments	1.00 0.50	Moderately suited Slope	0.50
Outland, very stony loam-----	3	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
Rock outcrop-----	2	Not rated		Not rated		Not rated	

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
351: Said-----	85	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Well suited	
Fredonyer, very stony loam-----	5	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments	1.00
Easte, very gravelly sandy loam-----	5	Moderately suited Sandiness	0.50	Poorly suited Slope Sandiness Rock fragments	0.75 0.50 0.50	Moderately suited Sandiness	0.50
Ninemile, very cobbly loam-----	3	Poorly suited Stickiness Rock fragments	0.75 0.50	Unsuited Rock fragments Stickiness Slope	1.00 0.75 0.50	Moderately suited Strength Stickiness	0.50 0.50
Petescreek, gravelly loam-----	2	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Well suited	
352: Said-----	50	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
Fraval-----	35	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Strength	1.00 0.50
Easte, very gravelly sandy loam-----	8	Moderately suited Sandiness Slope	0.50 0.50	Unsuited Slope Sandiness Rock fragments	1.00 0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50
Deadwood family, very gravelly sandy loam-----	7	Moderately suited Sandiness	0.50	Poorly suited Slope Rock fragments Sandiness	0.75 0.50 0.50	Moderately suited Sandiness Slope	0.50 0.50
353: Said-----	60	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Moderately suited Slope	0.50
Ninemile-----	25	Poorly suited Stickiness Rock fragments	0.75 0.50	Unsuited Rock fragments Stickiness Slope	1.00 0.75 0.50	Moderately suited Strength Stickiness	0.50 0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Fredonyer, very stony loam-----	5	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments Slope	1.00 0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Eaglelake, very gravelly loam-----	5	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Well suited	
354: Scaribou-----	85	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Well suited	
Scaribou, stony loam	8	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.75	Moderately suited Rock fragments Slope	0.50 0.50
Penstock-----	7	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Rock fragments	0.50
355: Scaribou-----	55	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00
Penstock-----	20	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
Rubble land-----	5	Not rated		Not rated		Not rated	
Deadwood, very gravelly sandy loam	5	Moderately suited Slope Sandiness	0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50
360: Searles-----	35	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments	0.50
Orhood-----	30	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments	0.50
Devada-----	20	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 0.75 0.50	Moderately suited Rock fragments	0.50
Bucklake, very stony loam-----	4	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 0.75 0.50	Poorly suited Rock fragments Slope	1.00 0.50
Fiddler, very stony loam-----	4	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 0.75 0.50	Poorly suited Rock fragments Strength	1.00 0.50
Fivesprings, very stony loam-----	3	Poorly suited Rock fragments Stickiness	0.75 0.50	Unsuited Rock fragments Slope Stickiness	1.00 0.75 0.50	Poorly suited Rock fragments Slope	1.00 0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Rock outcrop-----	2	Not rated		Not rated		Not rated	
Xerolls, loamy coarse sand-----	2	Well suited		Moderately suited Slope	0.50	Well suited	
364: Southpac-----	85	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00
Rock outcrop-----	8	Not rated		Not rated		Not rated	
Riverwash-----	4	Not rated		Not rated		Not rated	
Keddie, loam-----	3	Well suited		Well suited		Moderately suited Strength	0.50
373: Swainow-----	40	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments	0.50
Almanor-----	30	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Moderately suited Rock fragments	0.50
Tahand-----	20	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Well suited	
Whorled, very gravelly sandy loam	10	Moderately suited Sandiness	0.50	Poorly suited Slope Rock fragments Sandiness	0.75 0.50 0.50	Moderately suited Sandiness Slope	0.50 0.50
374: Swainow, very stony sandy loam-----	65	Poorly suited Rock fragments Sandiness	0.75 0.50	Unsuited Rock fragments Slope Sandiness	1.00 0.75 0.50	Poorly suited Rock fragments Sandiness Slope	1.00 0.50 0.50
Almanor-----	20	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments Slope	1.00 0.50
Keddie, loam-----	3	Well suited		Well suited		Moderately suited Strength	0.50
Almanor, very gravelly sandy loam	3	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments Slope	1.00 0.50
Rock outcrop-----	3	Not rated		Not rated		Not rated	
Whorled, very gravelly sandy loam	4	Moderately suited Sandiness	0.50	Poorly suited Slope Rock fragments Sandiness	0.75 0.50 0.50	Moderately suited Sandiness Slope	0.50 0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Tahand-----	2	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments Slope	1.00 0.50
375: Swainow-----	50	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Well suited	
Redriver-----	35	Moderately suited Sandiness Rock fragments	0.50 0.50	Poorly suited Rock fragments Sandiness Slope	0.75 0.50 0.50	Well suited	
Rubble land-----	5	Not rated		Not rated		Not rated	
Redriver-----	5	Moderately suited Rock fragments Sandiness	0.50 0.50	Poorly suited Rock fragments Slope Sandiness	0.75 0.50 0.50	Moderately suited Rock fragments	0.50
Woodwest, very stony sandy loam-----	5	Poorly suited Rock fragments Sandiness	0.75 0.50	Unsuited Rock fragments Sandiness	1.00 0.50	Moderately suited Rock fragments	0.50
376: Swainow-----	55	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00
Tahand-----	35	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00
Urban land-----	5	Not rated		Not rated		Not rated	
Baileycreek, very bouldery loam-----	5	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00
377: Tahand-----	45	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Well suited	
Baileycreek-----	35	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Well suited	
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Baileycreek, very stony loam-----	5	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments Slope	1.00 0.50
Weste, very stony sandy loam-----	5	Poorly suited Rock fragments Sandiness	0.75 0.50	Unsuited Rock fragments Slope Sandiness	1.00 0.75 0.50	Poorly suited Rock fragments Sandiness Slope	1.00 0.50 0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Redriver, very gravelly sandy loam	5	Moderately suited Sandiness Rock fragments	0.50 0.50	Poorly suited Rock fragments Slope Sandiness	0.75 0.50 0.50	Well suited	
378: Tahand-----	35	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
Swainow-----	30	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Rock fragments	0.50
Almanor-----	20	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Well suited	
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Woodwest, very stony sandy loam-----	5	Poorly suited Rock fragments Sandiness	0.75 0.50	Unsuited Rock fragments Sandiness	1.00 0.50	Moderately suited Rock fragments	0.50
Keddle, loam-----	5	Well suited		Well suited		Moderately suited Strength	0.50
382: Toiyabe-----	50	Moderately suited Sandiness Slope	0.50 0.50	Unsuited Slope Sandiness Rock fragments	1.00 0.50 0.50	Poorly suited Slope	1.00
Lasco-----	20	Moderately suited Slope	0.50	Unsuited Slope	1.00	Poorly suited Slope	1.00
Quartzburg-----	15	Moderately suited Rock fragments Sandiness Slope	0.50 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Toiyabe-----	5	Moderately suited Sandiness Rock fragments Slope	0.50 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Poorly suited Rock fragments Slope	1.00 1.00
Outland, very stony loam-----	5	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
383: Toiyabe-----	55	Moderately suited Sandiness	0.50	Poorly suited Slope Sandiness Rock fragments	0.75 0.50 0.50	Moderately suited Sandiness	0.50
Lasco-----	30	Well suited		Poorly suited Slope	0.75	Well suited	
Bonta, coarse sandy loam-----	8	Well suited		Moderately suited Slope	0.50	Well suited	

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Toiyabe-----	7	Moderately suited Sandiness Rock fragments	0.50 0.50	Poorly suited Slope Rock fragments Sandiness	0.75 0.75 0.50	Poorly suited Rock fragments Sandiness Slope	1.00 0.50 0.50
391: Ulhalf-----	85	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
Inville, very gravelly loam-----	8	Well suited		Moderately suited Rock fragments	0.50	Well suited	
Southpac, very stony loam-----	7	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 1.00
392: Ulhalf-----	90	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Well suited	
Deadwood, very gravelly sandy loam	5	Moderately suited Sandiness	0.50	Moderately suited Rock fragments Slope Sandiness	0.50 0.50 0.50	Moderately suited Sandiness	0.50
Penstock-----	5	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
393: Ulhalf-----	60	Poorly suited Rock fragments	0.75	Unsuited Rock fragments	1.00	Poorly suited Rock fragments	1.00
Gavel-----	30	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Well suited	
Southpac, very stony loam-----	10	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.50	Poorly suited Rock fragments	1.00
394: Ulhalf-----	60	Well suited		Moderately suited Rock fragments Slope	0.50 0.50	Well suited	
Southpac-----	30	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments Slope	1.00 0.50
Rock outcrop-----	10	Not rated		Not rated		Not rated	
398: Waste-----	35	Poorly suited Rock fragments Sandiness	0.75 0.50	Unsuited Rock fragments Slope Sandiness	1.00 0.75 0.50	Poorly suited Rock fragments Sandiness	1.00 0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Baileycreek-----	30	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments	1.00
Tahand-----	20	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments	1.00
Rubble land-----	8	Not rated		Not rated		Not rated	
Rock outcrop-----	7	Not rated		Not rated		Not rated	
399: Waste-----	65	Moderately suited Sandiness Slope	0.50 0.50	Unsuited Slope Sandiness Rock fragments	1.00 0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
Swainow, stony sandy loam-----	10	Poorly suited Rock fragments Slope	0.75 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope Rock fragments	1.00 0.50
Woodwest, very stony sandy loam-----	10	Poorly suited Rock fragments Sandiness	0.75 0.50	Unsuited Rock fragments Sandiness	1.00 0.50	Moderately suited Rock fragments	0.50
400: Whitinger-----	45	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Rock fragments Strength	0.50 0.50
Devada-----	35	Unsuited Rock fragments Stickiness	1.00 0.50	Unsuited Rock fragments Slope Stickiness	1.00 0.75 0.50	Moderately suited Rock fragments	0.50
Rubble land-----	5	Not rated		Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated		Not rated	
Jauriga, gravelly loam-----	5	Well suited		Moderately suited Slope Rock fragments	0.50 0.50	Well suited	
Buckbay, gravelly loam-----	5	Well suited		Poorly suited Slope Rock fragments	0.75 0.50	Well suited	
401: Whorled-----	45	Moderately suited Sandiness	0.50	Poorly suited Slope Rock fragments Sandiness	0.75 0.50 0.50	Moderately suited Sandiness Slope	0.50 0.50
Almanor-----	35	Moderately suited Rock fragments	0.50	Poorly suited Slope Rock fragments	0.75 0.75	Moderately suited Slope	0.50

TABLE 11.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Tahand-----	8	Poorly suited Rock fragments	0.75	Unsuited Rock fragments Slope	1.00 0.75	Poorly suited Rock fragments Slope	1.00 0.50
Whorled-----	7	Moderately suited Sandiness Rock fragments	0.50 0.50	Poorly suited Slope Rock fragments Sandiness	0.75 0.75 0.50	Moderately suited Rock fragments Sandiness Slope	0.50 0.50 0.50
Rock outcrop-----	5	Not rated		Not rated		Not rated	

TABLE 12.--FORESTLAND MANAGEMENT

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
101:					
Almanor-----	40	Poorly suited Rock fragments	0.50	Well suited	
Whorled-----	35	Well suited		Well suited	
Inville-----	20	Well suited		Well suited	
Tahand-----	5	Unsuited Rock fragments	1.00	Unsuited Rock fragments	1.00
111:					
Baileycreek-----	45	Well suited		Well suited	
Weste-----	35	Poorly suited Rock fragments	0.50	Well suited	
Inville-----	10	Poorly suited Rock fragments	0.50	Well suited	
Weste-----	5	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
Baileycreek-----	5	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
112:					
Baileycreek-----	50	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Weste-----	35	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Swainow-----	5	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Rock outcrop-----	5	Not rated		Not rated	
Weste-----	3	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Baileycreek-----	2	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
113: Baileycreek-----	50	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 1.00
Weste-----	35	Unsuited Slope	1.00	Unsuited Slope	1.00
Rubble land-----	5	Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated	
Swainow-----	5	Unsuited Slope	1.00	Unsuited Slope	1.00
124: Bonta-----	80	Well suited		Well suited	
Janile-----	10	Unsuited Rock fragments	1.00	Poorly suited Rock fragments	0.50
Lasco-----	10	Well suited		Well suited	
125: Bonta-----	80	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Lasco-----	10	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Rock outcrop-----	5	Not rated		Not rated	
Bonta-----	5	Unsuited Rock fragments Slope	1.00 0.50	Poorly suited Slope Rock fragments	0.50 0.50
126: Bonta-----	75	Unsuited Slope	1.00	Unsuited Slope	1.00
Bonta-----	5	Unsuited Rock fragments Slope	1.00 1.00	Unsuited Slope Rock fragments	1.00 0.50
Lasco-----	5	Unsuited Slope	1.00	Unsuited Slope	1.00
Waterman-----	5	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 0.50

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Gerle-----	5	Unsuited Slope	1.00	Unsuited Slope	1.00
Chimney-----	5	Unsuited Slope	1.00	Unsuited Slope	1.00
133: Buckbay-----	35	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Orhood-----	25	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Devada-----	20	Poorly suited Rock fragments Stickiness	0.50 0.50	Poorly suited Rock fragments	0.50
Fredonyer-----	4	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Longcreek-----	4	Poorly suited Rock fragments Slope Stickiness	0.50 0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Ninemile-----	4	Poorly suited Stickiness Rock fragments	0.50 0.50	Well suited	
Petescreek-----	4	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Puls-----	4	Poorly suited Rock fragments Stickiness	0.50 0.50	Unsuited Restrictive layer	1.00
134: Buckbay-----	40	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Orhood-----	25	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Fredonyer-----	20	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Searles-----	8	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Jauriga-----	7	Well suited		Well suited	

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
136:					
Bunanch-----	90	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Ulhalf-----	5	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Jauriga-----	4	Well suited		Well suited	
Keddie-----	1	Well suited		Well suited	
137:					
Cagwin-----	85	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Penstock-----	5	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Quartzburg-----	3	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Cagwin-----	3	Unsuited Rock fragments Slope	1.00 0.50	Poorly suited Slope Rock fragments	0.50 0.50
Lasco-----	2	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Cagwin-----	2	Unsuited Slope	1.00	Unsuited Slope	1.00
138:					
Cagwin-----	85	Unsuited Slope	1.00	Unsuited Slope	1.00
Cagwin family-----	3	Unsuited Slope	1.00	Unsuited Slope	1.00
Penstock family-----	5	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Lasco-----	5	Unsuited Slope	1.00	Unsuited Slope	1.00
Cagwin-----	1	Unsuited Slope	1.00	Unsuited Slope	1.00
Quartzburg-----	1	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
152:					
Chimney-----	90	Well suited		Well suited	

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Mottsville-----	6	Well suited		Well suited	
Rock outcrop-----	4	Not rated		Not rated	
153: Chimney-----	85	Well suited		Well suited	
Bonta-----	8	Well suited		Well suited	
Mottsville-----	7	Well suited		Well suited	
154: Chimney-----	35	Unsuited Slope	1.00	Unsuited Slope	1.00
Janile-----	35	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 0.50
Waterman-----	15	Unsuited Rock fragments Slope	1.00 0.50	Poorly suited Slope Rock fragments	0.50 0.50
Rock outcrop-----	5	Not rated		Not rated	
Mottsville-----	5	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Bonta-----	5	Poorly suited Slope	0.50	Poorly suited Slope	0.50
155: Chimney-----	40	Unsuited Slope	1.00	Unsuited Slope	1.00
Janile-----	30	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 0.50
Waterman-----	15	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 0.50
Chimney-----	8	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 0.50
Rock outcrop-----	7	Not rated		Not rated	

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
156:					
Chimney-----	65	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Waterman-----	20	Unsuited Rock fragments	1.00	Poorly suited Rock fragments	0.50
Mottsville-----	5	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Massack-----	5	Well suited		Well suited	
Calpine-----	5	Well suited		Well suited	
157:					
Chirpchatte-----	85	Well suited		Well suited	
Ulhalf family-----	8	Unsuited Rock fragments	1.00	Unsuited Rock fragments	1.00
Gavel family-----	7	Well suited		Well suited	
172:					
Devada-----	60	Unsuited Rock fragments Slope Stickiness	1.00 0.50 0.50	Unsuited Rock fragments Slope	1.00 0.50
Gavel-----	35	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Ulhalf-----	5	Poorly suited Slope	0.50	Poorly suited Slope	0.50
173:					
Devada-----	40	Unsuited Rock fragments Stickiness	1.00 0.50	Unsuited Rock fragments	1.00
Gavel-----	25	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Whitinger-----	15	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Rubble land-----	4	Not rated		Not rated	
Rock outcrop-----	4	Not rated		Not rated	

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Petescreek-----	4	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Orhood-----	4	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Bucklake-----	4	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
176: Devada-----	30	Poorly suited Rock fragments Stickiness	0.50 0.50	Poorly suited Rock fragments	0.50
Orhood-----	30	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Hart Camp-----	25	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Jauriga-----	4	Well suited		Well suited	
Fiddler-----	4	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Searles-----	3	Unsuited Rock fragments	1.00	Unsuited Rock fragments	1.00
Rock outcrop-----	2	Not rated		Not rated	
Aquolls-----	1	Poorly suited Wetness	0.50	Unsuited Wetness	1.00
Rubble land-----	1	Not rated		Not rated	
177: Devada-----	40	Unsuited Slope Rock fragments Stickiness	1.00 0.50 0.50	Unsuited Slope Rock fragments	1.00 0.50
Papeek-----	30	Unsuited Slope	1.00	Unsuited Slope	1.00
Gavel-----	20	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Whitinger-----	5	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Gavel-----	5	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
178: Devada-----	40	Unsuited Rock fragments Stickiness	1.00 0.50	Unsuited Rock fragments	1.00
Petescreek-----	25	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Fiddler-----	20	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Longcreek-----	3	Unsuited Rock fragments Slope Stickiness	1.00 0.50 0.50	Unsuited Rock fragments Slope	1.00 0.50
Fredonyer-----	3	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Bucklake-----	3	Poorly suited Rock fragments	0.50	Well suited	
Dune land-----	2	Not rated		Not rated	
Tunnison-----	2	Poorly suited Rock fragments Slope Stickiness	0.50 0.50 0.50	Poorly suited Slope	0.50
Madeline-----	2	Unsuited Rock fragments Slope Stickiness	1.00 0.50 0.50	Unsuited Rock fragments Slope	1.00 0.50
184: Eaglelake-----	85	Well suited		Well suited	
Outland-----	5	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
Rock outcrop-----	5	Not rated		Not rated	
Eaglelake-----	5	Unsuited Rock fragments	1.00	Unsuited Rock fragments	1.00

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
185:					
Eaglelake-----	50	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Outland-----	25	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
Weste-----	15	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Inville-----	5	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
Outland-----	3	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Rock outcrop-----	2	Not rated		Not rated	
186:					
Eaglelake-----	45	Unsuited Slope	1.00	Unsuited Slope	1.00
Outland-----	25	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00
Weste-----	15	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 1.00
Rubble land-----	5	Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated	
Easte-----	5	Unsuited Slope	1.00	Unsuited Slope	1.00
187:					
Eaglelake-----	45	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Outland-----	25	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Weste-----	15	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Rubble land-----	5	Not rated		Not rated	
Easte-----	4	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Outland-----	3	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Weste-----	3	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
188: Eaglelake-----	45	Unsuited Slope	1.00	Unsuited Slope	1.00
Outland-----	25	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Weste-----	15	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Deadwood-----	8	Unsuited Slope	1.00	Unsuited Slope	1.00
Eaglelake-----	7	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
189: Easte-----	55	Unsuited Slope	1.00	Unsuited Slope	1.00
Fredonyer-----	30	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 1.00
Petescreek-----	4	Unsuited Slope	1.00	Unsuited Slope	1.00
Glean-----	3	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 1.00
Said-----	3	Unsuited Slope	1.00	Unsuited Slope	1.00
Rubble land-----	2	Not rated		Not rated	
Xerolls-----	2	Unsuited Slope	1.00	Unsuited Slope	1.00

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Eaglelake family----	1	Unsuited Slope	1.00	Unsuited Slope	1.00
190: Easte-----	50	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Roop-----	35	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Rock outcrop-----	4	Not rated		Not rated	
Outland-----	4	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Rubble land-----	3	Not rated		Not rated	
Roop-----	2	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Easte-----	2	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 1.00
191: Easte-----	50	Unsuited Slope	1.00	Unsuited Slope	1.00
Roop-----	40	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 1.00
Outland-----	5	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Rock outcrop-----	3	Not rated		Not rated	
Rubble land-----	2	Not rated		Not rated	
194: Fiddler-----	35	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Gavel-----	30	Poorly suited Slope	0.50	Poorly suited Slope	0.50

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Rubble land-----	15	Not rated		Not rated	
Devada-----	7	Poorly suited Rock fragments Slope Stickiness	0.50 0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Orhood-----	6	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Rock outcrop-----	3	Not rated		Not rated	
Whitinger-----	2	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Said-----	2	Poorly suited Slope	0.50	Poorly suited Slope	0.50
195: Fiddler-----	40	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Gavel-----	25	Unsuited Slope	1.00	Unsuited Slope	1.00
Rubble land-----	15	Not rated		Not rated	
Orhood-----	5	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Devada-----	5	Unsuited Slope Rock fragments Stickiness	1.00 0.50 0.50	Unsuited Slope Rock fragments	1.00 0.50
Rock outcrop-----	4	Not rated		Not rated	
Whitinger-----	4	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Said-----	2	Unsuited Slope	1.00	Unsuited Slope	1.00

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
196:					
Fiddler-----	45	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Madeline-----	35	Unsuited Rock fragments Slope Stickiness	1.00 0.50 0.50	Unsuited Rock fragments Slope	1.00 0.50
Orhood-----	5	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Devada-----	5	Unsuited Rock fragments Slope Stickiness	1.00 0.50 0.50	Unsuited Rock fragments Slope	1.00 0.50
Rock outcrop-----	4	Not rated		Not rated	
Fivesprings-----	3	Unsuited Rock fragments	1.00	Unsuited Rock fragments	1.00
Petescreek-----	3	Well suited		Well suited	
197:					
Fiddler-----	30	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Orhood-----	30	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
Petescreek-----	25	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Home Camp-----	5	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
Fredonyer-----	4	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Buckbay-----	3	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Badenaugh-----	3	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
207:					
Forgay-----	85	Poorly suited Rock fragments	0.50	Well suited	
Mountmed, clay loam-	8	Well suited		Well suited	

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Urban land-----	7	Not rated		Not rated	
208: Forgay-----	80	Poorly suited Rock fragments	0.50	Well suited	
Urban land-----	5	Not rated		Not rated	
Forgay-----	5	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
Riverwash, extremely gravelly coarse sand-----	5	Not rated		Not rated	
Fluvents-----	5	Well suited		Well suited	
211: Fraval-----	40	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Fredonyer-----	25	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Said-----	20	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Keddie, loam-----	3	Well suited		Well suited	
Rubble land-----	2	Not rated		Not rated	
Rock outcrop-----	2	Not rated		Not rated	
Searles, very stony loam-----	2	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Petescreek, gravelly loam-----	2	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Ninemile, very stony loam-----	2	Unsuited Rock fragments Stickiness	1.00 0.50	Unsuited Rock fragments	1.00

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Orhood, very stony sandy loam-----	2	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
212: Fraval-----	60	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Said-----	30	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Rock outcrop-----	5	Not rated		Not rated	
Fredonyer, very stony loam-----	3	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Ninemile, very stony loam-----	2	Unsuited Rock fragments Stickiness	1.00 0.50	Unsuited Rock fragments	1.00
213: Fredonyer-----	45	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Whitinger-----	25	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Orhood-----	15	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Badenaugh, stony sandy loam-----	3	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Rubble land-----	2	Not rated		Not rated	
Rock outcrop-----	2	Not rated		Not rated	
Searles, very stony loam-----	2	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 1.00

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Petescreek, very gravelly loam-----	2	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Hapgood, stony loam-	2	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Fiddler, very stony loam-----	2	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
218: Gavel-----	85	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Devada, very cobbly loam-----	8	Poorly suited Rock fragments Slope Stickiness	0.50 0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Searles, very stony loam-----	7	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
219: Gavel-----	55	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 1.00
Devada-----	35	Unsuited Slope Rock fragments Stickiness	1.00 0.50 0.50	Unsuited Slope Rock fragments	1.00 0.50
Devada, very cobbly loam-----	10	Unsuited Slope Rock fragments Stickiness	1.00 0.50 0.50	Unsuited Slope Rock fragments	1.00 0.50
223: Gerle-----	90	Well suited		Well suited	
Gerle, gravelly sandy loam-----	5	Well suited		Well suited	
Gerle-----	5	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
224: Gerle-----	85	Unsuited Slope	1.00	Unsuited Slope	1.00

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Gerle-----	5	Unsuited Rock fragments Slope	1.00 1.00	Unsuited Slope Rock fragments	1.00 0.50
Rock outcrop-----	5	Not rated		Not rated	
Mottsville, gravelly loamy coarse sand--	5	Unsuited Slope	1.00	Unsuited Slope	1.00
225: Gerle-----	50	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 1.00
Gerle-----	25	Unsuited Slope	1.00	Unsuited Slope	1.00
Gerle-----	15	Unsuited Slope	1.00	Unsuited Slope	1.00
Rock outcrop-----	10	Not rated		Not rated	
232: Hangtown-----	75	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Hangtown-----	5	Unsuited Rock fragments Slope	1.00 1.00	Unsuited Slope Rock fragments	1.00 0.50
Rock outcrop-----	5	Not rated		Not rated	
Penstock-----	5	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Scaribou, stony loam	5	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Deadwood, very gravelly sandy loam	5	Unsuited Slope	1.00	Unsuited Slope	1.00
256: Indiano-----	45	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Zephan-----	30	Unsuited Slope Rock fragments Stickiness	1.00 0.50 0.50	Unsuited Slope Rock fragments	1.00 0.50
Duco-----	15	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Barnard, stony sandy loam-----	2	Poorly suited Rock fragments Stickiness	0.50 0.50	Poorly suited Rock fragments Restrictive layer	0.50 0.50
Graufels, bouldery sand-----	2	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 0.50
Glenbrook-----	2	Unsuited Slope	1.00	Unsuited Slope	1.00
Glean, very stony loam-----	2	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 1.00
Corral, very cobbly loam-----	2	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
257: Inville-----	85	Poorly suited Rock fragments	0.50	Well suited	
Mountmed, clay loam-	8	Well suited		Well suited	
Swainow, very gravelly sandy loam	7	Well suited		Well suited	
259: Jauriga-----	40	Well suited		Well suited	
Buckbay-----	25	Well suited		Well suited	
Fredonyer-----	20	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Rubble land-----	5	Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated	

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Petescreek, gravelly loam-----	5	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
266: Lasco-----	90	Well suited		Well suited	
Lasco-----	5	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
Scaribou, very gravelly loam-----	5	Well suited		Well suited	
267: Lasco-----	95	Unsuited Slope	1.00	Unsuited Slope	1.00
Bonta, gravelly sandy loam-----	5	Unsuited Slope	1.00	Unsuited Slope	1.00
268: Lasco-----	90	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Waterman-----	5	Unsuited Rock fragments Slope	1.00 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Dotta, gravelly loam	5	Well suited		Well suited	
269: Lasco-----	65	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Bonta-----	25	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Chirpchatter, sandy loam-----	4	Well suited		Well suited	
Chimney, gravelly loamy coarse sand--	3	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Cagwin-----	3	Poorly suited Slope	0.50	Poorly suited Slope	0.50
298: Ninemile-----	30	Unsuited Rock fragments Stickiness	1.00 0.50	Unsuited Rock fragments	1.00
Petescreek-----	30	Well suited		Well suited	

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Fiddler-----	25	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Rock outcrop-----	5	Not rated		Not rated	
Fredonyer, very stony loam-----	5	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Devada, very stony loam-----	5	Unsuited Rock fragments Slope Stickiness	1.00 0.50 0.50	Unsuited Rock fragments Slope	1.00 0.50
299: Ninemile-----	50	Poorly suited Rock fragments Stickiness	0.50 0.50	Poorly suited Rock fragments	0.50
Weste-----	35	Well suited		Well suited	
Mountmed, clay loam-	8	Well suited		Well suited	
Rock outcrop-----	7	Not rated		Not rated	
302: Orhood-----	80	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
Incy, fine sand-----	8	Well suited		Well suited	
Searles, very stony loam-----	6	Unsuited Rock fragments	1.00	Unsuited Rock fragments	1.00
Puls, very stony loam-----	6	Unsuited Rock fragments Stickiness	1.00 0.50	Unsuited Restrictive layer Rock fragments	1.00 1.00
304: Outland-----	75	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 1.00
Rock outcrop-----	10	Not rated		Not rated	
Rubble land-----	10	Not rated		Not rated	

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Eaglelake, very gravelly loam-----	5	Unsuited Slope	1.00	Unsuited Slope	1.00
305: Outland-----	60	Well suited		Well suited	
Outland-----	30	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Eaglelake, very gravelly loam-----	5	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Rock outcrop-----	5	Not rated		Not rated	
306: Outland-----	60	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Penstock-----	25	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Deadwood, very gravelly sandy loam	8	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Easte, very gravelly sandy loam-----	7	Poorly suited Slope	0.50	Poorly suited Slope	0.50
307: Outland-----	60	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Penstock-----	25	Unsuited Slope	1.00	Unsuited Slope	1.00
Fiddler, very stony loam-----	8	Unsuited Slope	1.00	Unsuited Slope	1.00
Easte, deep to bedrock-----	7	Unsuited Slope	1.00	Unsuited Slope	1.00
308: Papeek-----	85	Poorly suited Slope	0.50	Poorly suited Slope	0.50

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Ulhalf, very gravelly sandy loam	8	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Papeek, clay loam---	7	Poorly suited Slope	0.50	Poorly suited Slope	0.50
309: Papeek-----	95	Unsuited Slope	1.00	Unsuited Slope	1.00
Deadwood, very gravelly sandy loam	5	Unsuited Slope	1.00	Unsuited Slope	1.00
310: Penstock-----	65	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Deadwood-----	25	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Rock outcrop-----	5	Not rated		Not rated	
Scaribou, very gravelly loam-----	5	Poorly suited Slope	0.50	Poorly suited Slope	0.50
311: Penstock-----	50	Unsuited Slope	1.00	Unsuited Slope	1.00
Deadwood-----	20	Unsuited Slope	1.00	Unsuited Slope	1.00
Rock outcrop-----	15	Not rated		Not rated	
Weste, very gravelly sandy loam-----	8	Unsuited Slope	1.00	Unsuited Slope	1.00
Tahand-----	7	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 1.00
312: Penstock-----	50	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Scaribou, stony loam	40	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Inville, very gravelly loam-----	5	Well suited		Well suited	
Aquolls, gravelly sandy loam-----	5	Poorly suited Wetness	0.50	Unsuited Wetness	1.00
313: Penstock-----	45	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Scaribou, stony loam	40	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Deadwood, very gravelly sandy loam	8	Unsuited Slope	1.00	Unsuited Slope	1.00
Rock outcrop-----	7	Not rated		Not rated	
321: Petescreek-----	35	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Orhood-----	25	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Fredonyer-----	20	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Searles, very cobbly loam-----	4	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Easte, very gravelly sandy loam-----	4	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Indiano, stony fine sandy loam-----	4	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Glean, very stony loam-----	4	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Alomax, very stony sandy loam-----	4	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
323: Petescreek-----	45	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Searles-----	25	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Orhood-----	20	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Fredonyer, very stony loam-----	10	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
332: Quartzburg-----	60	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Scaribou-----	30	Unsuited Slope	1.00	Unsuited Slope	1.00
Rubble land-----	5	Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated	
337: Redriver-----	45	Poorly suited Rock fragments	0.50	Well suited	
Gerle-----	35	Well suited		Well suited	
Inville, very gravelly loam-----	10	Well suited		Well suited	
Forgay, extremely gravelly sandy loam	10	Poorly suited Rock fragments	0.50	Well suited	

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
338:					
Redriver-----	50	Poorly suited Rock fragments	0.50	Well suited	
Weste-----	30	Well suited		Well suited	
Woodwest, very stony sandy loam-----	5	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
Swainow, very gravelly sandy loam	5	Well suited		Well suited	
Keddie, loam-----	5	Well suited		Well suited	
Inville, very gravelly loam-----	5	Well suited		Well suited	
339:					
Redriver, stony sandy loam-----	50	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
Woodwest-----	20	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
Wafila-----	15	Well suited		Well suited	
Inville, very gravelly loam-----	8	Well suited		Well suited	
Rock outcrop-----	7	Not rated		Not rated	
343:					
Rubble land-----	60	Not rated		Not rated	
Fiddler-----	25	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope Rock fragments	0.50 0.50
Orhood, very stony loam-----	8	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope Rock fragments	0.50 0.50
Rock outcrop-----	7	Not rated		Not rated	
346:					
Rubble land-----	60	Not rated		Not rated	

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Weste-----	20	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Gavel-----	5	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Easte, gravelly loam	7	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Scaribou, very gravelly loam-----	3	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Outland, very stony loam-----	3	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Rock outcrop-----	2	Not rated		Not rated	
351: Said-----	85	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Fredonyer, very stony loam-----	5	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Easte, very gravelly sandy loam-----	5	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Ninemile, very cobbly loam-----	3	Poorly suited Rock fragments Stickiness	0.50 0.50	Well suited	
Petescreek, gravelly loam-----	2	Poorly suited Slope	0.50	Poorly suited Slope	0.50
352: Said-----	50	Unsuited Slope	1.00	Unsuited Slope	1.00
Fraval-----	35	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00
Easte, very gravelly sandy loam-----	8	Unsuited Slope	1.00	Unsuited Slope	1.00

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Deadwood family, very gravelly sandy loam-----	7	Poorly suited Slope	0.50	Poorly suited Slope	0.50
353: Said-----	60	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Ninemile-----	25	Poorly suited Rock fragments Stickiness	0.50 0.50	Well suited	
Rock outcrop-----	5	Not rated		Not rated	
Fredonyer, very stony loam-----	5	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Eaglelake, very gravelly loam-----	5	Well suited		Well suited	
354: Scaribou-----	85	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Scaribou, stony loam	8	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Penstock-----	7	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
355: Scaribou-----	55	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 1.00
Penstock-----	20	Unsuited Slope	1.00	Unsuited Slope	1.00
Rock outcrop-----	15	Not rated		Not rated	
Rubble land-----	5	Not rated		Not rated	
Deadwood, very gravelly sandy loam	5	Unsuited Slope	1.00	Unsuited Slope	1.00

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
360:					
Searles-----	35	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Orhood-----	30	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Devada-----	20	Poorly suited Rock fragments Slope Stickiness	0.50 0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Bucklake, very stony loam-----	4	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Fiddler, very stony loam-----	4	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Fivesprings, very stony loam-----	3	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Rock outcrop-----	2	Not rated		Not rated	
Xerolls, loamy coarse sand-----	2	Well suited		Well suited	
364:					
Southpac-----	85	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 1.00
Rock outcrop-----	8	Not rated		Not rated	
Riverwash-----	4	Not rated		Not rated	
Keddie, loam-----	3	Well suited		Well suited	
373:					
Swainow-----	40	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Almanor-----	30	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Tahand-----	20	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Whorled, very gravelly sandy loam	10	Poorly suited Slope	0.50	Poorly suited Slope	0.50
374: Swainow, very stony sandy loam-----	65	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Almanor-----	20	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Keddie, loam-----	3	Well suited		Well suited	
Almanor, very gravelly sandy loam	3	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Rock outcrop-----	3	Not rated		Not rated	
Whorled, very gravelly sandy loam	4	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Tahand-----	2	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
375: Swainow-----	50	Well suited		Well suited	
Redriver-----	35	Poorly suited Rock fragments	0.50	Well suited	
Rubble land-----	5	Not rated		Not rated	
Redriver-----	5	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
Woodwest, very stony sandy loam-----	5	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
376: Swainow-----	55	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 1.00

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Tahand-----	35	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 1.00
Urban land-----	5	Not rated		Not rated	
Baileycreek, very bouldery loam-----	5	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 1.00
377: Tahand-----	45	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Baileycreek-----	35	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Rock outcrop-----	5	Not rated		Not rated	
Baileycreek, very stony loam-----	5	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Weste, very stony sandy loam-----	5	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Redriver, very gravelly sandy loam	5	Poorly suited Rock fragments	0.50	Well suited	
378: Tahand-----	35	Well suited		Well suited	
Swainow-----	30	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
Almanor-----	20	Poorly suited Rock fragments	0.50	Well suited	
Rock outcrop-----	5	Not rated		Not rated	
Woodwest, very stony sandy loam-----	5	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
Keddie, loam-----	5	Well suited		Well suited	

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
382:					
Toiyabe-----	50	Unsuited Slope	1.00	Unsuited Slope	1.00
Lasco-----	20	Unsuited Slope	1.00	Unsuited Slope	1.00
Quartzburg-----	15	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
Rock outcrop-----	5	Not rated		Not rated	
Toiyabe-----	5	Unsuited Rock fragments Slope	1.00 1.00	Unsuited Slope Rock fragments	1.00 0.50
Outland, very stony loam-----	5	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
383:					
Toiyabe-----	55	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Lasco-----	30	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Bonta, coarse sandy loam-----	8	Well suited		Well suited	
Toiyabe-----	7	Unsuited Rock fragments Slope	1.00 0.50	Poorly suited Slope Rock fragments	0.50 0.50
391:					
Ulhalf-----	85	Unsuited Slope	1.00	Unsuited Slope	1.00
Inville, very gravelly loam-----	8	Well suited		Well suited	
Southpac, very stony loam-----	7	Unsuited Slope Rock fragments	1.00 1.00	Unsuited Slope Rock fragments	1.00 1.00
392:					
Ulhalf-----	90	Well suited		Well suited	
Deadwood, very gravelly sandy loam	5	Well suited		Well suited	
Penstock-----	5	Well suited		Well suited	

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
393:					
Ulhalf-----	60	Unsuited Rock fragments	1.00	Unsuited Rock fragments	1.00
Gavel-----	30	Poorly suited Rock fragments	0.50	Well suited	
Southpac, very stony loam-----	10	Unsuited Rock fragments	1.00	Unsuited Rock fragments	1.00
394:					
Ulhalf-----	60	Well suited		Well suited	
Southpac-----	30	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Rock outcrop-----	10	Not rated		Not rated	
398:					
Weste-----	35	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Baileycreek-----	30	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Tahand-----	20	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Rubble land-----	8	Not rated		Not rated	
Rock outcrop-----	7	Not rated		Not rated	
399:					
Weste-----	65	Unsuited Slope	1.00	Unsuited Slope	1.00
Rock outcrop-----	15	Not rated		Not rated	
Swainow, stony sandy loam-----	10	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50

TABLE 12.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Woodwest, very stony sandy loam-----	10	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
400: Whitinger-----	45	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Devada-----	35	Poorly suited Rock fragments Slope Stickiness	0.50 0.50 0.50	Poorly suited Rock fragments Slope	0.50 0.50
Rubble land-----	5	Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated	
Jauriga, gravelly loam-----	5	Well suited		Well suited	
Buckbay, gravelly loam-----	5	Poorly suited Slope	0.50	Poorly suited Slope	0.50
401: Whorled-----	45	Poorly suited Slope	0.50	Poorly suited Slope	0.50
Almanor-----	35	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
Tahand-----	8	Unsuited Rock fragments Slope	1.00 0.50	Unsuited Rock fragments Slope	1.00 0.50
Whorled-----	7	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope Rock fragments	0.50 0.50
Rock outcrop-----	5	Not rated		Not rated	

TABLE 13.--FORESTLAND MANAGEMENT

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
101:					
Almanor-----	40	Low		High Available water	1.00
Whorled-----	35	Low		High Available water	1.00
Inville-----	20	Low		High Available water	1.00
Tahand-----	5	Low		Moderate Available water	0.50
111:					
Baileycreek-----	45	Moderate Texture/coarse fragments	0.50	High Available water	1.00
Weste-----	35	Moderate Texture/coarse fragments	0.50	High Available water	1.00
Inville-----	10	Low		High Available water	1.00
Weste-----	5	Moderate Texture/coarse fragments	0.50	High Available water	1.00
Baileycreek-----	5	Moderate Texture/coarse fragments	0.50	High Available water	1.00
112:					
Baileycreek-----	50	Moderate Texture/coarse fragments	0.50	High Available water	1.00
Weste-----	35	Moderate Texture/coarse fragments	0.50	High Available water	1.00
Swainow-----	5	Low		Low	
Rock outcrop-----	5	Not rated		Not rated	
Weste-----	3	Moderate Texture/coarse fragments	0.50	High Available water	1.00
Baileycreek-----	2	Moderate Texture/coarse fragments	0.50	High Available water	1.00

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire	Potential for seedling mortality		
		Rating class and limiting features	Value	Rating class and limiting features	Value
113: Baileycreek-----	50	Low		Low	
Weste-----	35	Moderate Texture/coarse fragments	0.50	High Available water	1.00
Rubble land-----	5	Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated	
Swainow-----	5	Low		Low	
124: Bonta-----	80	High Texture/coarse fragments	1.00	Moderate Available water	0.50
Janile-----	10	High Texture/surface depth/coarse fragments	1.00	High Available water	1.00
Lasco-----	10	Low Texture/coarse fragments	0.10	High Available water	1.00
125: Bonta-----	80	High Texture/coarse fragments	1.00	Low	
Lasco-----	10	Low Texture/coarse fragments	0.10	Low	
Rock outcrop-----	5	Not rated		Not rated	
Bonta-----	5	High Texture/coarse fragments	1.00	Low	
126: Bonta-----	75	Moderate Texture/coarse fragments	0.50	Moderate Available water	0.50
Bonta-----	5	Moderate Texture/coarse fragments	0.50	Moderate Available water	0.50
Lasco-----	5	Low Texture/coarse fragments	0.10	Low	
Waterman-----	5	High Texture/slope/ coarse fragments	1.00	Low	
Gerle-----	5	Low Texture/coarse fragments	0.10	Low	
Chimney-----	5	High Texture/coarse fragments	1.00	Low	

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
133: Buckbay-----	35	Moderate Texture/coarse fragments	0.50	Low	
Orhood-----	25	Moderate Texture/surface depth/coarse fragments	0.50	Moderate Available water	0.50
Devada-----	20	Low		High Available water	1.00
Fredonyer-----	4	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Longcreek-----	4	Moderate Texture/surface depth/coarse fragments	0.50	Moderate Available water	0.50
Ninemile-----	4	Moderate Texture/surface depth/coarse fragments	0.50	Moderate Available water	0.50
Petescreek-----	4	Low Texture/coarse fragments	0.10	Low	
Puls-----	4	High Texture/surface depth/coarse fragments	1.00	High Available water	1.00
134: Buckbay-----	40	Moderate Texture/coarse fragments	0.50	Low	
Orhood-----	25	Moderate Texture/surface depth/coarse fragments	0.50	High Available water	1.00
Fredonyer-----	20	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Searles-----	8	High Texture/coarse fragments	1.00	High Available water	1.00
Jauriga-----	7	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
136: Bunanch-----	90	Low Texture/coarse fragments	0.10	Low	
Ulhalf-----	5	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Jauriga-----	4	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Keddie-----	1	Low Texture/coarse fragments	0.10	High Wetness	1.00

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
137:					
Cagwin-----	85	Moderate Texture/coarse fragments	0.50	Low	
Penstock-----	5	Low		Low	
Quartzburg-----	3	Moderate Texture/slope/ coarse fragments	0.50	Moderate Available water	0.50
Cagwin-----	3	High Texture/coarse fragments	1.00	High Soil reaction	1.00
		Texture/surface depth/coarse fragments	1.00		
Lasco-----	2	Low Texture/coarse fragments	0.10	Low	
Cagwin-----	2	Low		Low	
138:					
Cagwin-----	85	Low		Low	
Cagwin family-----	3	Low		Low	
Penstock family-----	5	Low		Low	
Lasco-----	5	Low Texture/coarse fragments	0.10	Low	
Cagwin-----	1	Low		Low	
Quartzburg-----	1	Moderate Texture/slope/ coarse fragments	0.50	Moderate Available water	0.50
152:					
Chimney-----	90	High Texture/coarse fragments	1.00	High Available water	1.00
Mottsville-----	6	Moderate Texture/coarse fragments	0.50	High Available water	1.00
Rock outcrop-----	4	Not rated		Not rated	
153:					
Chimney-----	85	High Texture/coarse fragments	1.00	High Available water	1.00
Bonta-----	8	Moderate Texture/coarse fragments	0.50	High Available water	1.00
Mottsville-----	7	Moderate Texture/coarse fragments	0.50	High Available water	1.00

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
154: Chimney-----	35	High Texture/coarse fragments	1.00	Moderate Available water	0.50
Janile-----	35	High Texture/slope/ surface depth	1.00	High Available water	1.00
Waterman-----	15	High Texture/slope/ coarse fragments	1.00	Low	
Rock outcrop-----	5	Not rated		Not rated	
Mottsville-----	5	Moderate Texture/coarse fragments	0.50	Low	
Bonta-----	5	Moderate Texture/coarse fragments	0.50	Moderate Available water	0.50
155: Chimney-----	40	High Texture/coarse fragments	1.00	Moderate Available water	0.50
Janile-----	30	High Texture/slope/ surface depth	1.00	High Available water	1.00
Waterman-----	15	High Texture/slope/ coarse fragments	1.00	Low	
Chimney-----	8	High Texture/coarse fragments	1.00	Moderate Available water	0.50
Rock outcrop-----	7	Not rated		Not rated	

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
156: Chimney-----	65	High Texture/coarse fragments	1.00	Low	
Waterman-----	20	High Texture/coarse fragments	1.00	High Available water	1.00
Mottsville-----	5	Moderate Texture/coarse fragments	0.50	Low	
Massack-----	5	Low Texture/coarse fragments	0.10	Low	
Calpine-----	5	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
157: Chirpchatter-----	85	Moderate Texture/coarse fragments	0.50	Moderate Available water	0.50
Ulhalf family-----	8	Moderate Texture/surface depth/coarse fragments	0.50	Moderate Available water	0.50
Gavel family-----	7	Moderate Texture/surface depth/coarse fragments	0.50	High Available water	1.00
172: Devada-----	60	Low		Low	
Gavel-----	35	Low		Low	
Ulhalf-----	5	Moderate Texture/surface depth/coarse fragments	0.50	Low	
173: Devada-----	40	Low		High Available water	1.00
Gavel-----	25	Moderate Texture/surface depth/coarse fragments	0.50	Moderate Available water	0.50
Whitinger-----	15	Low		Low	

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Rubble land-----	4	Not rated		Not rated	
Rock outcrop-----	4	Not rated		Not rated	
Petescreek-----	4	Low Texture/coarse fragments	0.10	Low	
Orhood-----	4	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Bucklake-----	4	Low		Low	
176: Devada-----	30	Moderate Texture/coarse fragments	0.50	High Available water	1.00
Orhood-----	30	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Hart Camp-----	25	Low Texture/surface depth/coarse fragments	0.10	Low	
Jauriga-----	4	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Fiddler-----	4	Low		Low	
Searles-----	3	High Texture/coarse fragments	1.00	Moderate Available water	0.50
Rock outcrop-----	2	Not rated		Not rated	
Aquolls-----	1	Low Texture/coarse fragments	0.10	High Wetness Salinity	1.00 0.50
Rubble land-----	1	Not rated		Not rated	

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
177:					
Devada-----	40	Moderate Texture/slope/ coarse fragments	0.50	Low	
Papeek-----	30	Low		Low	
Gavel-----	20	High Texture/slope/ surface depth/coarse fragments	1.00	Low	
Whitinger-----	5	High Texture/slope/ coarse fragments	1.00	Low	
Gavel-----	5	High Texture/slope/ surface depth/coarse fragments	1.00	Low	
178:					
Devada-----	40	Moderate Texture/coarse fragments	0.50	High Available water	1.00
Petescreek-----	25	Low Texture/coarse fragments	0.10	Low	
Fiddler-----	20	Low		Low	
Longcreek-----	3	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Fredonyer-----	3	Moderate Texture/surface depth/coarse fragments	0.50	High Available water	1.00
Bucklake-----	3	High Texture/coarse fragments	1.00	Moderate Available water	0.50
Dune land-----	2	Not rated		Not rated	
Tunnison-----	2	High Texture/surface depth/coarse fragments	1.00	Low	
Madeline-----	2	Moderate Texture/coarse fragments	0.50	Low	
184:					
Eaglelake-----	85	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Outland-----	5	Low		High Available water	1.00
Rock outcrop-----	5	Not rated		Not rated	
Eaglelake-----	5	Low Texture/coarse fragments	0.10	Moderate Available water	0.50

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
185:					
Eaglelake-----	50	Low Texture/coarse fragments	0.10	Low	
Outland-----	25	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Weste-----	15	Low		Low	
Inville-----	5	Low		Low	
Outland-----	3	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Rock outcrop-----	2	Not rated		Not rated	
186:					
Eaglelake-----	45	Low		Low	
Outland-----	25	Low		Low	
Weste-----	15	Low		Low	
Rubble land-----	5	Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated	
Easte-----	5	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
187:					
Eaglelake-----	45	Low Texture/coarse fragments	0.10	Low	
Outland-----	25	Low		Low	
Weste-----	15	Low		Low	
Rubble land-----	5	Not rated		Not rated	
Easte-----	4	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Outland-----	3	Low		Low	
Weste-----	3	Low		Low	

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
188:					
Eaglelake-----	45	Low Texture/coarse fragments	0.10	Low	
Outland-----	25	Low		Low	
Waste-----	15	Low		Low	
Deadwood-----	8	Low		Low	
Eaglelake-----	7	Low Texture/coarse fragments	0.10	Low	
189:					
Easte-----	55	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Fredonyer-----	30	High Texture/slope/ surface depth/coarse fragments	1.00	High Available water	1.00
Petescreek-----	4	Low Texture/coarse fragments	0.10	Low	
Clean-----	3	Moderate Texture/slope/ surface depth/coarse fragments	0.50	Moderate Available water	0.50
Said-----	3	Low Texture/coarse fragments	0.10	Low	
Rubble land-----	2	Not rated		Not rated	
Xerolls-----	2	Moderate Texture/coarse fragments	0.50	High Wetness Salinity	1.00 0.50
Eaglelake family----	1	Low		Low	
190:					
Easte-----	50	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Roop-----	35	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Rock outcrop-----	4	Not rated		Not rated	
Outland-----	4	Low		Low	
Rubble land-----	3	Not rated		Not rated	
Roop-----	2	Low Texture/coarse fragments	0.10	Moderate Available water	0.50

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Easte-----	2	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
191: Easte-----	50	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Roop-----	40	Moderate Texture/slope/ coarse fragments	0.50	Moderate Available water	0.50
Outland-----	5	Low		Low	
Rock outcrop-----	3	Not rated		Not rated	
Rubble land-----	2	Not rated		Not rated	
194: Fiddler-----	35	Moderate Texture/coarse fragments	0.50	High Available water	1.00
Gavel-----	30	Moderate Texture/surface depth/coarse fragments	0.50	Moderate Available water	0.50
Rubble land-----	15	Not rated		Not rated	
Devada-----	7	Low		Low	
Orhood-----	6	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Rock outcrop-----	3	Not rated		Not rated	
Whitinger-----	2	Low		Low	
Said-----	2	Low Texture/coarse fragments	0.10	Low	
195: Fiddler-----	40	Moderate Texture/slope/ coarse fragments	0.50	High Available water	1.00
Gavel-----	25	High Texture/slope/ surface depth/coarse fragments	1.00	Moderate Available water	0.50
Rubble land-----	15	Not rated		Not rated	
Orhood-----	5	Low		Low	
Devada-----	5	Moderate Texture/slope/ coarse fragments	0.50	Low	
Rock outcrop-----	4	Not rated		Not rated	
Whitinger-----	4	High Texture/slope/ coarse fragments	1.00	Low	
Said-----	2	Low Texture/coarse fragments	0.10	Low	

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
196:					
Fiddler-----	45	Moderate Texture/coarse fragments	0.50	High Available water	1.00
Madeline-----	35	Moderate Texture/coarse fragments	0.50	Low	
Orhood-----	5	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Devada-----	5	Moderate Texture/coarse fragments	0.50	High Available water	1.00
Rock outcrop-----	4	Not rated		Not rated	
Fivesprings-----	3	High Texture/surface depth/coarse fragments	1.00	High Available water	1.00
Petescreek-----	3	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
197:					
Fiddler-----	30	Moderate Texture/coarse fragments	0.50	High Available water	1.00
Orhood-----	30	Moderate Texture/surface depth/coarse fragments	0.50	High Available water	1.00
Petescreek-----	25	Low Texture/coarse fragments	0.10	Low	
Home Camp-----	5	Low		Moderate Available water	0.50
Fredonyer-----	4	Moderate Texture/surface depth/coarse fragments	0.50	High Available water	1.00
Buckbay-----	3	Moderate Texture/coarse fragments	0.50	Low	
Badenaugh-----	3	Low Texture/coarse fragments	0.10	High Available water	1.00
207:					
Forgay-----	85	Low		High Available water	1.00
Mountmed, clay loam-	8	Low		Low	
Urban land-----	7	Not rated		Not rated	
208:					
Forgay-----	80	Low		High Available water	1.00
Urban land-----	5	Not rated		Not rated	

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Forgay-----	5	Low		High Available water	1.00
Riverwash, extremely gravelly coarse sand-----	5	Not rated		Not rated	
Fluvents-----	5	Low		High Wetness Soil reaction	1.00 0.50
211: Fraval-----	40	Low Texture/coarse fragments	0.10	Low	
Fredonyer-----	25	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Said-----	20	Low Texture/coarse fragments	0.10	Low	
Keddie, loam-----	3	Low Texture/coarse fragments	0.10	High Wetness	1.00
Rubble land-----	2	Not rated		Not rated	
Rock outcrop-----	2	Not rated		Not rated	
Searles, very stony loam-----	2	High Texture/coarse fragments	1.00	High Available water	1.00
Petescreek, gravelly loam-----	2	Low Texture/coarse fragments	0.10	Low	
Ninemile, very stony loam-----	2	Moderate Texture/surface depth/coarse fragments	0.50	Moderate Available water	0.50

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Orhood, very stony sandy loam-----	2	Moderate Texture/surface depth/coarse fragments	0.50	Low	
212: Fraval-----	60	Low Texture/coarse fragments	0.10	Low	
Said-----	30	Low Texture/coarse fragments	0.10	Low	
Rock outcrop-----	5	Not rated		Not rated	
Predonyer, very stony loam-----	3	Moderate Texture/surface depth/coarse fragments	0.50	Moderate Available water	0.50
Ninemile, very stony loam-----	2	Moderate Texture/surface depth/coarse fragments	0.50	Moderate Available water	0.50
213: Predonyer-----	45	Moderate Texture/slope/ surface depth/coarse fragments	0.50	Moderate Available water	0.50
Whitinger-----	25	High Texture/slope/ course fragments	1.00	High Available water	1.00
Orhood-----	15	Low		Low	
Badenaugh, stony sandy loam-----	3	Low Texture/coarse fragments	0.10	Low	
Rubble land-----	2	Not rated		Not rated	

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Rock outcrop-----	2	Not rated		Not rated	
Searles, very stony loam-----	2	High Texture/coarse fragments	1.00	High Available water	1.00
Petescreek, very gravelly loam-----	2	Low Texture/coarse fragments	0.10	Low	
Hapgood, stony loam-	2	Low Texture/surface depth/coarse fragments	0.10	Moderate Available water	0.50
Fiddler, very stony loam-----	2	Moderate Texture/slope/ coarse fragments	0.50	High Available water	1.00
218: Gavel-----	85	Low		Low	
Devada, very cobbly loam-----	8	Low		Low	
Searles, very stony loam-----	7	High Texture/coarse fragments	1.00	High Available water	1.00
219: Gavel-----	55	Low		Low	
Devada-----	35	Moderate Texture/slope/ coarse fragments	0.50	Low	
Devada, very cobbly loam-----	10	Moderate Texture/slope/ coarse fragments	0.50	Low	
223: Gerle-----	90	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Gerle, gravelly sandy loam-----	5	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Gerle-----	5	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
224: Gerle-----	85	Low Texture/coarse fragments	0.10	Low	
Gerle-----	5	Low Texture/coarse fragments	0.10	Low	
Rock outcrop-----	5	Not rated		Not rated	

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Mottsville, gravelly loamy coarse sand--	5	Moderate Texture/coarse fragments	0.50	Low	
225: Gerle-----	50	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Gerle-----	25	Low Texture/coarse fragments	0.10	Low	
Gerle-----	15	Low Texture/coarse fragments	0.10	Low	
Rock outcrop-----	10	Not rated		Not rated	
232: Hangtown-----	75	Low		Low	
Hangtown-----	5	Low		Low	
Rock outcrop-----	5	Not rated		Not rated	
Penstock-----	5	Low		Low	
Scaribou, stony loam	5	Moderate Texture/slope/ coarse fragments	0.50	Low	
Deadwood, very gravelly sandy loam	5	Low		Low	
256: Indiano-----	45	Moderate Texture/slope/ coarse fragments	0.50	Low	
Zephan-----	30	High Texture/slope/ surface depth/coarse fragments	1.00	High Available water	1.00
Duco-----	15	Moderate Texture/coarse fragments	0.50	Low	
Barnard, stony sandy loam-----	2	Low		Moderate Available water	0.50
Graufels, bouldery sand-----	2	Moderate Texture/coarse fragments	0.50	Low	
Glenbrook-----	2	High Texture/slope/ surface depth	1.00	Low	
Glean, very stony loam-----	2	Moderate Texture/slope/ surface depth/coarse fragments	0.50	Moderate Available water	0.50

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Corral, very cobbly loam-----	2	High Texture/slope/ surface depth/coarse fragments	1.00	Low	
257: Inville-----	85	Low		High Available water	1.00
Mountmed, clay loam-	8	Low		Low	
Swainow, very gravelly sandy loam	7	Low		High Available water	1.00
259: Jauriga-----	40	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Buckbay-----	25	Moderate Texture/coarse fragments	0.50	Low	
Fredonyer-----	20	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Rubble land-----	5	Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated	
Petescreek, gravelly loam-----	5	Low Texture/coarse fragments	0.10	Low	
266: Lasco-----	90	Low Texture/coarse fragments	0.10	High Available water	1.00
Lasco-----	5	Low Texture/coarse fragments	0.10	High Available water	1.00
Scaribou, very gravelly loam-----	5	Low		High Available water	1.00
267: Lasco-----	95	Low Texture/coarse fragments	0.10	Low	
Bonta, gravelly sandy loam-----	5	Moderate Texture/coarse fragments	0.50	Moderate Available water	0.50
268: Lasco-----	90	Low Texture/coarse fragments	0.10	Low	
Waterman-----	5	High Texture/coarse fragments	1.00	Low	
Dotta, gravelly loam	5	Low Texture/coarse fragments	0.10	Moderate Available water	0.50

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
269:					
Lasco-----	65	Low Texture/coarse fragments	0.10	Low	
Bonta-----	25	High Texture/coarse fragments	1.00	Low	
Chirpchatter, sandy loam-----	4	Moderate Texture/coarse fragments	0.50	Moderate Available water	0.50
Chimney, gravelly loamy coarse sand--	3	High Texture/coarse fragments	1.00	Low	
Cagwin-----	3	Moderate Texture/coarse fragments	0.50	Low	
298:					
Ninemile-----	30	Moderate Texture/surface depth/coarse fragments	0.50	Moderate Available water	0.50
Petescreek-----	30	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Fiddler-----	25	Moderate Texture/coarse fragments	0.50	High Available water	1.00
Rock outcrop-----	5	Not rated		Not rated	
Fredonyer, very stony loam-----	5	Moderate Texture/surface depth/coarse fragments	0.50	Moderate Available water	0.50
Devada, very stony loam-----	5	Moderate Texture/coarse fragments	0.50	High Available water	1.00
299:					
Ninemile-----	50	Moderate Texture/surface depth/coarse fragments	0.50	Moderate Available water	0.50
Weste-----	35	Low		High Available water	1.00
Mountmed, clay loam-	8	Low		Low	
Rock outcrop-----	7	Not rated		Not rated	

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
302: Orhood-----	80	Moderate Texture/surface depth/coarse fragments	0.50	High Available water	1.00
Incy, fine sand----	8	High Texture/coarse fragments	1.00	High Available water	1.00
Searles, very stony loam-----	6	High Texture/coarse fragments	1.00	Moderate Available water	0.50
Puls, very stony loam-----	6	High Texture/surface depth/coarse fragments	1.00	High Available water	1.00
304: Outland-----	75	Low		Low	
Rock outcrop-----	10	Not rated		Not rated	
Rubble land-----	10	Not rated		Not rated	
Eaglelake, very gravelly loam-----	5	Low		Low	
305: Outland-----	60	Low		High Available water	1.00
Outland-----	30	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Eaglelake, very gravelly loam-----	5	Low Texture/coarse fragments	0.10	Low	
Rock outcrop-----	5	Not rated		Not rated	
306: Outland-----	60	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Penstock-----	25	Low		Low	
Deadwood, very gravelly sandy loam	8	Low		Low	
Easte, very gravelly sandy loam-----	7	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
307: Outland-----	60	Low		Low	
Penstock-----	25	Low		Low	
Fiddler, very stony loam-----	8	High Texture/coarse fragments Texture/slope/ coarse fragments Texture/slope/ surface depth	1.00 1.00 1.00	High Soil reaction	1.00

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Easte, deep to bedrock-----	7	High Texture/coarse fragments Texture/slope/ coarse fragments Texture/slope/ surface depth	1.00 1.00 1.00	High Soil reaction	1.00
308: Papeek-----	85	Low		Low	
Ulhalf-----	8	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Papeek, clay loam---	7	Low		Low	
309: Papeek-----	95	Low		Low	
Deadwood, very gravelly sandy loam	5	Low		Low	
310: Penstock-----	65	Low		Low	
Deadwood-----	25	Low		Low	
Rock outcrop-----	5	Not rated		Not rated	
Scaribou, very gravelly loam-----	5	Low		Low	
311: Penstock-----	50	Low		Low	
Deadwood-----	20	Low		Low	
Rock outcrop-----	15	Not rated		Not rated	
Weste, very gravelly sandy loam-----	8	Low		Low	
Tahand-----	7	Moderate Texture/slope/ surface depth/coarse fragments	0.50	Low	
312: Penstock-----	50	Low		Low	
Scaribou, stony loam	40	Low		Low	
Inville, very gravelly loam-----	5	Low		High Available water	1.00
Aquolls, gravelly sandy loam-----	5	Low Texture/coarse fragments	0.10	High Wetness Salinity	1.00 0.50

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
313: Penstock-----	45	Low		Low	
Scaribou, stony loam	40	Moderate Texture/slope/ coarse fragments	0.50	Low	
Deadwood, very gravelly sandy loam	8	Low		Low	
Rock outcrop-----	7	Not rated		Not rated	
321: Petescreek-----	35	Low Texture/coarse fragments	0.10	Low	
Orhood-----	25	Moderate Texture/surface depth/coarse fragments	0.50	High Available water	1.00
Fredonyer-----	20	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Searles, very cobbly loam-----	4	High Texture/coarse fragments	1.00	High Available water	1.00
Easte, very gravelly sandy loam-----	4	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Indiano, stony fine sandy loam-----	4	Moderate Texture/coarse fragments	0.50	Low	
Glean, very stony loam-----	4	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Alomax, very stony sandy loam-----	4	High Texture/surface depth/coarse fragments	1.00	Low	
323: Petescreek-----	45	Low Texture/coarse fragments	0.10	Low	
Searles-----	25	High Texture/coarse fragments	1.00	High Available water	1.00
Orhood-----	20	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Fredonyer, very stony loam-----	10	Moderate Texture/surface depth/coarse fragments	0.50	Low	

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
332: Quartzburg-----	60	Moderate Texture/slope/ coarse fragments	0.50	Moderate Available water	0.50
Scaribou-----	30	Low		Low	
Rubble land-----	5	Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated	
337: Redriver-----	45	Low		High Available water	1.00
Gerle-----	35	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Inville, very gravelly loam-----	10	Low		High Available water	1.00
Forgay, extremely gravelly sandy loam	10	Low		High Available water	1.00
338: Redriver-----	50	Moderate Texture/surface depth/coarse fragments	0.50	High Available water	1.00
Weste-----	30	Low		High Available water	1.00
Woodwest, very stony sandy loam-----	5	Low		High Available water	1.00
Swainow, very gravelly sandy loam	5	Low		High Available water	1.00
Keddie, loam-----	5	Low Texture/coarse fragments	0.10	High Wetness	1.00
Inville, very gravelly loam-----	5	Low		High Available water	1.00
339: Redriver, stony sandy loam-----	50	Low		High Available water	1.00
Woodwest-----	20	Low		High Available water	1.00
Wafila-----	15	Moderate Texture/coarse fragments	0.50	High Available water	1.00
Inville, very gravelly loam-----	8	Low		High Available water	1.00
Rock outcrop-----	7	Not rated		Not rated	

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
343:					
Rubble land-----	60	Not rated		Not rated	
Fiddler-----	25	Moderate Texture/slope/ coarse fragments	0.50	Low	
Orhood, very stony loam-----	8	Low		Low	
Rock outcrop-----	7	Not rated		Not rated	
346:					
Rubble land-----	60	Not rated		Not rated	
Weste-----	20	Low		Low	
Gavel-----	5	Low		Low	
Easte, gravelly loam	7	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Scaribou, very gravelly loam-----	3	Low		Low	
Outland, very stony loam-----	3	Low		Low	
Rock outcrop-----	2	Not rated		Not rated	
351:					
Said-----	85	Low Texture/coarse fragments	0.10	Low	
Fredonyer, very stony loam-----	5	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Easte, very gravelly sandy loam-----	5	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Ninemile, very cobble loam-----	3	Moderate Texture/surface depth/coarse fragments	0.50	Moderate Available water	0.50
Petescreek, gravelly loam-----	2	Low Texture/coarse fragments	0.10	Low	
352:					
Said-----	50	Low Texture/coarse fragments	0.10	Low	
Fraval-----	35	Low Texture/coarse fragments	0.10	Low	
Easte, very gravelly sandy loam-----	8	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Deadwood family, very gravelly sandy loam-----	7	Low		Low	

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
353:					
Said-----	60	Low Texture/coarse fragments	0.10	Low	
Ninemile-----	25	Moderate Texture/surface depth/coarse fragments	0.50	Moderate Available water	0.50
Rock outcrop-----	5	Not rated		Not rated	
Fredonyer, very stony loam-----	5	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Eaglelake, very gravelly loam-----	5	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
354:					
Scaribou-----	85	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Scaribou, stony loam	8	Low		Low	
Penstock-----	7	Low		Moderate Available water	0.50
355:					
Scaribou-----	55	Moderate Texture/slope/ coarse fragments	0.50	High Available water	1.00
Penstock-----	20	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Rock outcrop-----	15	Not rated		Not rated	
Rubble land-----	5	Not rated		Not rated	
Deadwood, very gravelly sandy loam	5	Low		Low	
360:					
Searles-----	35	Low		Low	
Orhood-----	30	Moderate Texture/surface depth/coarse fragments	0.50	Low	
Devada-----	20	Low		Low	
Bucklake, very stony loam-----	4	Low		Low	
Fiddler, very stony loam-----	4	Low		Low	
Fivesprings, very stony loam-----	3	High Texture/surface depth/coarse fragments	1.00	High Available water	1.00

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Rock outcrop-----	2	Not rated		Not rated	
Xerolls, loamy coarse sand-----	2	Moderate Texture/coarse fragments	0.50	High Wetness Salinity	1.00 0.50
364: Southpac-----	85	Moderate Texture/slope/ coarse fragments	0.50	Low	
Rock outcrop-----	8	Not rated		Not rated	
Riverwash-----	4	Not rated		Not rated	
Keddie, loam-----	3	Low Texture/coarse fragments	0.10	High Wetness	1.00
373: Swainow-----	40	Low		Low	
Almanor-----	30	Low		Low	
Tahand-----	20	Low		Low	
Whorled, very gravelly sandy loam	10	Low		Low	
374: Swainow, very stony sandy loam-----	65	Moderate Texture/surface depth/coarse fragments	0.50	High Available water	1.00
Almanor-----	20	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Keddie, loam-----	3	Low Texture/coarse fragments	0.10	High Wetness	1.00
Almanor, very gravelly sandy loam	3	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Rock outcrop-----	3	Not rated		Not rated	
Whorled, very gravelly sandy loam	4	Low		Low	
Tahand-----	2	Low		Low	
375: Swainow-----	50	Low		High Available water	1.00
Redriver-----	35	Low		High Available water	1.00
Rubble land-----	5	Not rated		Not rated	
Redriver-----	5	Low		High Available water	1.00
Woodwest, very stony sandy loam-----	5	Low		High Available water	1.00

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
376:					
Swainow-----	55	Moderate Texture/slope/ surface depth/coarse fragments	0.50	Low	
Tahand-----	35	Moderate Texture/slope/ surface depth/coarse fragments	0.50	Low	
Urban land-----	5	Not rated		Not rated	
Baileycreek, very bouldery loam-----	5	Moderate Texture/slope/ coarse fragments	0.50	Low	
377:					
Tahand-----	45	Low		Low	
Baileycreek-----	35	Low		Low	
Rock outcrop-----	5	Not rated		Not rated	
Baileycreek, very stony loam-----	5	Moderate Texture/coarse fragments	0.50	High Available water	1.00
Weste, very stony sandy loam-----	5	Moderate Texture/coarse fragments	0.50	High Available water	1.00
Redriver, very gravelly sandy loam	5	Low		High Available water	1.00
378:					
Tahand-----	35	Low		Moderate Available water	0.50
Swainow-----	30	Low Texture/coarse fragments	0.10	High Available water	1.00
Almanor-----	20	Low		High Available water	1.00
Rock outcrop-----	5	Not rated		Not rated	
Woodwest, very stony sandy loam-----	5	Low		High Available water	1.00
Keddie, loam-----	5	Low Texture/coarse fragments	0.10	High Wetness	1.00
382:					
Toiyabe-----	50	High Texture/slope/ coarse fragments	1.00	Low	
Lasco-----	20	Moderate Texture/coarse fragments	0.50	Moderate Available water	0.50

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Quartzburg-----	15	Low		Low	
Rock outcrop-----	5	Not rated		Not rated	
Toiyabe-----	5	High Texture/slope/ coarse fragments	1.00	Low	
Outland, very stony loam-----	5	Low		Low	
383: Toiyabe-----	55	High Texture/coarse fragments	1.00	Low	
Lasco-----	30	Moderate Texture/coarse fragments	0.50	Low	
Bonta, coarse sandy loam-----	8	High Texture/coarse fragments	1.00	Moderate Available water	0.50
Toiyabe-----	7	High Texture/coarse fragments	1.00	Low	
391: Ulhalf-----	85	Moderate Texture/slope/ surface depth/coarse fragments	0.50	Low	
Inville, very gravelly loam-----	8	Low		High Available water	1.00
Southpac, very stony loam-----	7	Moderate Texture/slope/ coarse fragments	0.50	Low	
392: Ulhalf-----	90	Moderate Texture/surface depth/coarse fragments	0.50	Moderate Available water	0.50
Deadwood, very gravelly sandy loam	5	Low		High Available water	1.00
Penstock-----	5	Low		High Available water	1.00
393: Ulhalf-----	60	Moderate Texture/surface depth/coarse fragments	0.50	Moderate Available water	0.50
Gavel-----	30	Low		High Available water	1.00
Southpac, very stony loam-----	10	Low		High Available water	1.00

TABLE 13.--FORESTLAND MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
394:					
Uihalf-----	60	Moderate Texture/surface depth/coarse fragments	0.50	Moderate Available water	0.50
Southpac-----	30	Low		Low	
Rock outcrop-----	10	Not rated		Not rated	
398:					
Weste-----	35	Low		Low	
Baileycreek-----	30	Low		Low	
Tahand-----	20	Low		Low	
Rubble land-----	8	Not rated		Not rated	
Rock outcrop-----	7	Not rated		Not rated	
399:					
Weste-----	65	Low		Low	
Rock outcrop-----	15	Not rated		Not rated	
Swainow, stony sandy loam-----	10	Moderate Texture/slope/ surface depth/coarse fragments	0.50	Low	
Woodwest, very stony sandy loam-----	10	Low		High Available water	1.00
400:					
Whitinger-----	45	Moderate Texture/coarse fragments	0.50	Low	
Devada-----	35	Low		Low	
Rubble land-----	5	Not rated		Not rated	
Rock outcrop-----	5	Not rated		Not rated	
Jauriga, gravelly loam-----	5	Low Texture/coarse fragments	0.10	Moderate Available water	0.50
Buckbay, gravelly loam-----	5	Moderate Texture/coarse fragments	0.50	Low	
401:					
Whorled-----	45	Low		Low	
Almanor-----	35	Low		Low	
Tahand-----	8	Low		Low	
Whorled-----	7	Low		Low	
Rock outcrop-----	5	Not rated		Not rated	

TABLE 14.--CONSTRUCTION MATERIALS

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
101: Almanor-----	40	Fair Bottom layer Thickest layer	 0.09 0.09	Poor Bottom layer Thickest layer	 0.00 0.00
Whorled-----	35	Fair Thickest layer Bottom layer	 0.19 0.19	Fair Bottom layer Thickest layer	 0.02 0.02
Inville-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
102: Alomax, very stony sandy loam-----	40	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.04
Glean-----	25	Fair Bottom layer Thickest layer	 0.06 0.06	Fair Bottom layer Thickest layer	 0.04 0.04
Rock outcrop-----	25	Not rated Bottom layer	 0.00	Not rated Bottom layer	 0.00
103: Anawalt-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Ninemile-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
104: Ardep-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.50
105: Ardep-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.50
106: Ardep-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.50
107: Ardep-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.50
108: Ardep-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.50

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Wespac-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Zorravista-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.34 0.34
109: Artray-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.06 0.54
110: Badenaugh-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
111: Baileycreek-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Weste-----	35	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
112: Baileycreek-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Weste-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
113: Baileycreek-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Weste-----	35	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
114: Barnard-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.10
115: Beckwourth-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.10 0.12
Fordney-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.11 0.13
116: Bieber-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
117: Biscaro-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
118: Biscaro-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Calnat-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
119: Biscaro-----	65	Fair Thickest layer Bottom layer	 0.00 0.50	Poor Bottom layer Thickest layer	 0.00 0.00
Playas, silty clay--	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
120: Blickenstaff-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.03 0.04
121: Honeylake-----	95	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.08
122: Robert-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.04 0.04
123: Robert-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.04
124: Bonta-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.05 0.05
125: Bonta-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.05 0.05
126: Bonta-----	75	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.05 0.05
127: Boulder Lake-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
128: Boulder Lake-----	95	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
129: Brubeck-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
130: Brubeck-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
131: Brubeck-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Diaz-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
132: Brubeck-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Loomis-----	35	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
133: Buckbay-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Orhood-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Devada-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
134: Buckbay-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Orhood-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Fredonyer-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
135: Bucklake-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Corral-----	30	Not rated Bottom layer	 0.00	Not rated Bottom layer	 0.00
Rubble land-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
136: Bunanch-----	90	Fair Bottom layer Thickest layer	 0.06 0.06	Poor Bottom layer Thickest layer	 0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
137: Cagwin-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.10 0.10
138: Cagwin-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.10 0.10
139: Calnat-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
140: Calneva-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
141: Calneva-----	65	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Playas, silty clay--	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
142: Calpine-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.01 0.05
143: Calpine-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.03 0.03
144: Calpine-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.03 0.03
145: Calpine-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.03 0.33
146: Indiano-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Chalco-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
147: Capona-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	30	Not rated Bottom layer	0.00	Not rated Bottom layer	0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
148: Cewat-----	80	Fair Thickest layer Bottom layer	 0.00 0.25	Poor Bottom layer Thickest layer	 0.00 0.00
149: Cewat-----	35	Fair Thickest layer Bottom layer	 0.00 0.25	Poor Bottom layer Thickest layer	 0.00 0.00
McConnel-----	35	Fair Thickest layer Bottom layer	 0.00 0.50	Poor Bottom layer Thickest layer	 0.00 0.00
Toulon-----	15	Fair Bottom layer Thickest layer	 0.00 0.12	Poor Bottom layer Thickest layer	 0.00 0.00
150: Chappuis-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
151: Chappuis-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
152: Chimney-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.10 0.11
153: Chimney-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.10 0.10
154: Chimney-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.10 0.11
Janile-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.10 0.10
Waterman-----	15	Fair Thickest layer Bottom layer	 0.00 0.06	Fair Thickest layer Bottom layer	 0.00 0.14
155: Chimney-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.10 0.10
Janile-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.10 0.10
Waterman-----	15	Fair Thickest layer Bottom layer	 0.00 0.06	Fair Thickest layer Bottom layer	 0.00 0.14

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
156: Chimney-----	65	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.10 0.10
Waterman-----	20	Fair Thickest layer Bottom layer	 0.00 0.06	Fair Thickest layer Bottom layer	 0.00 0.14
157: Chirpchatter-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
158: Cleghorn-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.00 0.04
159: Cleghorn-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.00 0.04
160: Cochran-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
161: Cochran-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
162: Corral-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
163: Corral-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
164: Corral-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
165: Corral-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
166: Corral-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
167: Corral-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Chalco-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
168: Corral-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Glenbrook-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.10
169: Devada-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Brubeck-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
170: Devada-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Bucklake-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
171: Devada-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Fivesprings-----	25	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Rubble land-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
172: Devada-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Gavel-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
173: Devada-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Gavel-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Whitinger-----	15	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
174: Devada-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Glean-----	30	Fair		Fair	
		Bottom layer	0.06	Bottom layer	0.04
		Thickest layer	0.06	Thickest layer	0.04
Sumine-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
175: Devada-----	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Longcreek-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
176: Devada-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Orhood-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hart Camp-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
177: Devada-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Papeek-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Gavel-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
178: Devada-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Petescreek-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Fiddler-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
179: Devada-----	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop-----	20	Not rated		Not rated	
		Bottom layer	0.00	Bottom layer	0.00
180: Dotta-----	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
181: Dotta-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
182: Dryvalley-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.10
183: Dryvalley-----	75	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Playas, silty clay--	15	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
184: Eaglelake-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
185: Eaglelake-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Outland-----	25	Fair Bottom layer Thickest layer	 0.20 0.20	Poor Bottom layer Thickest layer	 0.00 0.00
Weste-----	15	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.00 0.04
186: Eaglelake-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Outland-----	25	Fair Bottom layer Thickest layer	 0.20 0.20	Poor Bottom layer Thickest layer	 0.00 0.00
Weste-----	15	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.00 0.04
187: Eaglelake-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Outland-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.03 0.03
Weste-----	15	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
188: Eaglelake-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Outland-----	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
Weste-----	15	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
189: Easte-----	55	Fair		Poor	
		Bottom layer	0.38	Bottom layer	0.00
		Thickest layer	0.38	Thickest layer	0.00
Fredonyer-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
190: Easte-----	50	Fair		Poor	
		Bottom layer	0.38	Bottom layer	0.00
		Thickest layer	0.38	Thickest layer	0.00
Roop-----	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
191: Easte-----	50	Fair		Poor	
		Bottom layer	0.38	Bottom layer	0.00
		Thickest layer	0.38	Thickest layer	0.00
Roop-----	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
192: Epot-----	55	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.08
Playas, silty clay--	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
193: Epot-----	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.08
Ragtown-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Playas, silty clay--	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
194: Fiddler-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Gavel-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Rubble land-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
195: Fiddler-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Gavel-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rubble land-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
196: Fiddler-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Madeline-----	35	Not rated		Not rated	
		Bottom layer	0.00	Bottom layer	0.00
197: Fiddler-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Orhood-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Petescreek-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
198: Fivesprings-----	50	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Longcreek-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
199: Fivesprings-----	50	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Longcreek-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
200: Fivesprings-----	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Longcreek-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rubble land-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
201: Fivesprings-----	40	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Rubble land-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Devada-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
202: Fivesprings-----	50	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Sumine-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
203: Fluents-----	70	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.09
Riverwash-----	20	Fair Bottom layer Thickest layer	 0.25 0.62	Fair Bottom layer Thickest layer	 0.00 0.63
204: Fordney-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.11 0.13
205: Fordney-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.06 0.13
206: Fordney-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.06 0.08
207: Forgay-----	85	Fair Bottom layer Thickest layer	 0.32 0.56	Fair Bottom layer Thickest layer	 0.00 0.01
208: Forgay-----	80	Fair Bottom layer Thickest layer	 0.32 0.56	Fair Bottom layer Thickest layer	 0.00 0.01
209: Fortsage-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
210: Fortsage-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
211: Fraval-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Fredonyer-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Said-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
212: Fraval-----	60	Not rated Bottom layer	0.00	Not rated Bottom layer	0.00
Said-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
213: Fredonyer-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Whitinger-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Orhood-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
214: Fulstone-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Wylo-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
215: Galeppi-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.03 0.10
216: Galeppi-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.03 0.10
217: Galeppi-----	65	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.10 0.11
Glenbrook-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.10
218: Gavel-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
219: Gavel-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Devada-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
220: Gerlach-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
221: Gerlach-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
222: Gerlach-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Ravendale-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
223: Gerle-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.03 0.03
224: Gerle-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.02 0.03
225: Gerle-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.02 0.03
Gerle-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.02 0.03
Gerle-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.02 0.03
226: Glean-----	90	Fair Bottom layer Thickest layer	0.06 0.06	Fair Bottom layer Thickest layer	0.04 0.04
227: Glean-----	85	Fair Bottom layer Thickest layer	0.06 0.06	Fair Bottom layer Thickest layer	0.04 0.04
228: Glean-----	55	Fair Bottom layer Thickest layer	0.06 0.06	Poor Bottom layer Thickest layer	0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Searles-----	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
229: Glenbrook-----	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.10
Graufels-----	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.09
		Thickest layer	0.00	Bottom layer	0.13
Rock outcrop-----	15	Not rated		Not rated	
		Bottom layer	0.00	Bottom layer	0.00
230: Graufels-----	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.09
		Thickest layer	0.00	Bottom layer	0.15
Glenbrook-----	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.30
231: Hagata-----	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Playas-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
232: Hangtown-----	75	Fair		Poor	
		Bottom layer	0.25	Bottom layer	0.00
		Thickest layer	0.25	Thickest layer	0.00
233: Hart Camp-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Devada-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Tunnison-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
234: Hart Camp-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Madeline-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
235: Haypress-----	60	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.11
		Thickest layer	0.00	Thickest layer	0.11
Tanob-----	20	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.04
		Thickest layer	0.00	Thickest layer	0.04

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
236: Herjun-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.04
237: Herjun-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.04
238: Highrock, loamy fine sand-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Mazuma-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.02 0.03
Wespac-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.50
239: Highrock, loamy fine sand-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Wespac, fine sandy loam-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Zorravista, loamy sand-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.08 0.34
240: Home Camp-----	65	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Newlands-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
241: Honlak-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.21
242: Horsecamp-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
243: Horsecamp-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Brubeck-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
244: Horsecamp-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Hunnton-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
245: Horsecamp, cobbly clay-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Mahala-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
246: Humboldt-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
247: Humboldt-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
248: Humboldt-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
249: Humboldt-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
250: Hunnton-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Shinnpeak-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
251: Incy-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.34 0.34
252: Incy-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.34 0.34
253: Indiano-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Graufels-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.09 0.13

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
254:					
Indiano-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Searles-----	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
255:					
Indiano-----	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Searles-----	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
256:					
Indiano-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Zephan-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Duco-----	15	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.06	Thickest layer	0.00
257:					
Inville-----	85	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.00	Bottom layer	0.16
258:					
Jauriga-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
259:					
Jauriga-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Buckbay-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Fredonyer-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
260:					
Keddle-----	95	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.19	Thickest layer	0.00
261:					
Keddle-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
262:					
Ladd-----	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
263: Ladd-----	70	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.04
Bieber-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
264: Lakeview-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
265: Lakeview-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
266: Lasco-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.03 0.03
267: Lasco-----	95	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.03 0.03
268: Lasco-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.03 0.03
269: Lasco-----	65	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.03 0.03
Bonta-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.05 0.05
270: Lieberman-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.50
271: Lieberman-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.50
Herlong-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
272: Lodico-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
273: Longcreek-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Devada-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Rubble land-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
274: Longcreek-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Devada-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Rubble land-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
275: Loomis-----	85	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
276: Loomis-----	55	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Fivesprings-----	30	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
277: Loomis-----	65	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Rubble land-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
278: Madeline-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Glean-----	30	Fair Bottom layer Thickest layer	 0.06 0.06	Poor Bottom layer Thickest layer	 0.00 0.00
Devada-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
279: Madeline-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Sumine-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
280: Massack-----	95	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.03
281: Mazuma-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.02 0.03
282: Mazuma-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.03
283: McConnel-----	60	Fair Thickest layer Bottom layer	0.00 0.50	Poor Bottom layer Thickest layer	0.00 0.00
Mottsville-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.13 0.33
284: Mcdermott-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
285: Modoc-----	70	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.03
Truax-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.09
286: Mottsville-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.13 0.33
287: Mottsville-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.13 0.33
288: Mottsville-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.13 0.33
289: Mottsville-----	80	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.13 0.33
290: Mottsville-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.13 0.33
291: Mottsville-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.13 0.33

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
292: Mottsville-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.13 0.33
Galeppi-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.03 0.11
293: Mountmed-----	85	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
294: Mountmed-----	85	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
295: Mountmed-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.01
296: Newlands-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Hapgood-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
297: Ninemile-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Home Camp-----	25	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Newlands-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
298: Ninemile-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Petescreek-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Fiddler-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
299: Ninemile-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Weste-----	35	Fair Bottom layer Thickest layer	 0.00 0.06	Fair Bottom layer Thickest layer	 0.00 0.04

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
300: Observation-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Searles-----	30	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Madeline-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
301: Observation-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Searles-----	30	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Madeline-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
302: Orhood-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
303: Orr-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.03 0.07
304: Outland-----	75	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
305: Outland-----	60	Fair Thickest layer Bottom layer	 0.20 0.20	Poor Bottom layer Thickest layer	 0.00 0.00
Outland-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
306: Outland-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Penstock-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
307: Outland-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Penstock-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
308: Papeek-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
309: Papeek-----	95	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
310: Penstock-----	65	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Deadwood-----	25	Fair Thickest layer Bottom layer	 0.00 0.14	Fair Thickest layer Bottom layer	 0.00 0.03
311: Penstock-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Deadwood-----	20	Fair Thickest layer Bottom layer	 0.00 0.31	Fair Thickest layer Bottom layer	 0.00 0.03
Rock outcrop-----	15	Not rated Bottom layer	 0.00	Not rated Bottom layer	 0.00
312: Penstock-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Scaribou, stony loam	40	Fair Thickest layer Bottom layer	 0.00 0.06	Poor Bottom layer Thickest layer	 0.00 0.00
313: Penstock-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Scaribou, stony loam	40	Fair Thickest layer Bottom layer	 0.00 0.06	Poor Bottom layer Thickest layer	 0.00 0.00
314: Pequop, very cobbly loam-----	55	Fair Bottom layer Thickest layer	 0.00 0.06	Poor Bottom layer Thickest layer	 0.00 0.00
Observation-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
315: Pequop-----	55	Fair Bottom layer Thickest layer	 0.00 0.06	Poor Bottom layer Thickest layer	 0.00 0.00
Observation-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
316: Petescreek-----	40	Poor Bottom layer Thickest layer	0.00 0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00 0.00
Bucklake-----	25	Poor Bottom layer Thickest layer	0.00 0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00 0.00
Devada-----	20	Poor Bottom layer Thickest layer	0.00 0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00 0.00
317: Petescreek-----	40	Poor Bottom layer Thickest layer	0.00 0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00 0.00
Devada-----	25	Poor Bottom layer Thickest layer	0.00 0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00 0.00
Searles-----	20	Poor Thickest layer Bottom layer	0.00 0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00 0.00
318: Petescreek-----	45	Poor Bottom layer Thickest layer	0.00 0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00 0.00
Devada-----	20	Poor Bottom layer Thickest layer	0.00 0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00 0.00
Searles-----	20	Poor Thickest layer Bottom layer	0.00 0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00 0.00
319: Petescreek-----	60	Poor Bottom layer Thickest layer	0.00 0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00 0.00
Fredonyer-----	25	Poor Bottom layer Thickest layer	0.00 0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00 0.00
320: Petescreek-----	60	Poor Bottom layer Thickest layer	0.00 0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00 0.00
Fredonyer-----	25	Poor Bottom layer Thickest layer	0.00 0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00 0.00
321: Petescreek-----	35	Poor Bottom layer Thickest layer	0.00 0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00 0.00
Orhood-----	25	Poor Bottom layer Thickest layer	0.00 0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00 0.00
Fredonyer-----	20	Poor Bottom layer Thickest layer	0.00 0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
322: Petescreek-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Searles-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
323: Petescreek-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Searles-----	25	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Orhood-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
324: Pit-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
325: Pits-----	50	Not rated Bottom layer	 0.00	Not rated Bottom layer	 0.00
Dumps-----	40	Not rated Bottom layer	 0.00	Not rated Bottom layer	 0.00
326: Playas, silty clay--	90	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
327: Plinco, gravelly sandy loam-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.03 0.03
328: Plinco-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.03 0.03
329: Puls-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
330: Puls-----	55	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Ninekar-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
331: Puls-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Tunnison-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
332: Quartzburg-----	60	Fair Thickest layer Bottom layer	 0.06 0.06	Fair Bottom layer Thickest layer	 0.14 0.14
Scaribou-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
333: Ravendale-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
334: Ravendale-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
335: Ravendale-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
336: Ravendale-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
337: Redriver-----	45	Fair Thickest layer Bottom layer	 0.12 0.12	Fair Bottom layer Thickest layer	 0.02 0.02
Gerle-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.02 0.03
338: Redriver-----	50	Fair Thickest layer Bottom layer	 0.12 0.12	Fair Bottom layer Thickest layer	 0.02 0.02
Waste-----	30	Fair Bottom layer Thickest layer	 0.00 0.06	Fair Bottom layer Thickest layer	 0.00 0.04
339: Redriver, stony sandy loam-----	50	Fair Thickest layer Bottom layer	 0.09 0.12	Fair Bottom layer Thickest layer	 0.02 0.02
Woodwest-----	20	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Wafila-----	15	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.00 0.03
340: Rices-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
341: Rose Creek-----	75	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.01
342: Rose Creek-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
343: Rubble land-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Fiddler-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
344: Rubble land-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Longcreek-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Fivesprings-----	20	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
345: Rubble land-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Rock outcrop-----	40	Not rated Bottom layer	 0.00	Not rated Bottom layer	 0.00
346: Rubble land-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Waste-----	20	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.00 0.04
347: Saddlerock-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
348: Saddlerock-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
349: Saddlerock-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
350: Saddlerock-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Yobe-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Termo-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
351: Said-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
352: Said-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Fraval-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
353: Said-----	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Ninemile-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
354: Scaribou-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
355: Scaribou-----	55	Fair		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.06	Thickest layer	0.00
Penstock-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop-----	15	Not rated		Not rated	
		Bottom layer	0.00	Bottom layer	0.00
356: Searles-----	35	Fair		Poor	
		Thickest layer	0.16	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.00
Devada-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Fivesprings-----	25	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
357: Searles-----	40	Fair		Poor	
		Thickest layer	0.16	Bottom layer	0.00
		Bottom layer	0.25	Thickest layer	0.00
Devada-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Rubble land-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
358: Searles-----	50	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Glean-----	35	Fair		Poor	
		Bottom layer	0.06	Bottom layer	0.00
		Thickest layer	0.06	Thickest layer	0.00
359: Searles-----	50	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Glean-----	35	Fair		Poor	
		Bottom layer	0.06	Bottom layer	0.00
		Thickest layer	0.06	Thickest layer	0.00
360: Searles-----	35	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Orhood-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Devada-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
361: Shinnpeak, very cobble sandy loam--	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
362: Smocreek-----	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
363: Smocreek, silt loam-	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
364: Southpac-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
365: Springmeyer-----	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.09
366: Springmeyer-----	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.07

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
367: Stacy-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.03 0.50
368: Standish-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.04 0.72
369: Stiles-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
370: Sumine-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Softscrabble, stony fine sandy loam----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Hutchley-----	15	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
371: Susanville-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
372: Susanville-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Smocreek-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
373: Swainow-----	40	Fair Bottom layer Thickest layer	 0.00 0.12	Poor Bottom layer Thickest layer	 0.00 0.00
Almanor-----	30	Fair Bottom layer Thickest layer	 0.09 0.09	Poor Bottom layer Thickest layer	 0.00 0.00
Tahand-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
374: Swainow, very stony sandy loam-----	65	Fair Bottom layer Thickest layer	 0.00 0.12	Poor Bottom layer Thickest layer	 0.00 0.00
Almanor-----	20	Fair Bottom layer Thickest layer	 0.09 0.09	Poor Bottom layer Thickest layer	 0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
375: Swainow-----	50	Fair Bottom layer Thickest layer	 0.00 0.12	Poor Bottom layer Thickest layer	 0.00 0.00
Redriver-----	35	Fair Thickest layer Bottom layer	 0.09 0.12	Fair Bottom layer Thickest layer	 0.02 0.02
376: Swainow-----	55	Fair Bottom layer Thickest layer	 0.00 0.12	Poor Bottom layer Thickest layer	 0.00 0.00
Tahand-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
377: Tahand-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Baileycreek-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
378: Tahand-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Swainow-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.00 0.04
Almanor-----	20	Fair Bottom layer Thickest layer	 0.09 0.09	Poor Bottom layer Thickest layer	 0.00 0.00
379: Termo-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Biscaro-----	30	Fair Thickest layer Bottom layer	 0.09 0.50	Poor Bottom layer Thickest layer	 0.00 0.00
380: Termo-----	75	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Playas-----	15	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
381: Termo-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Springmeyer-----	15	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.06

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Smocreek-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
382: Toiyabe-----	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.11
Lasco-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Quartzburg-----	15	Fair		Poor	
		Thickest layer	0.06	Bottom layer	0.00
		Bottom layer	0.06	Thickest layer	0.00
383: Toiyabe-----	55	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.11
Lasco-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
384: Torriorthents-----	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Zorravista-----	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.33
385: Truax-----	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.09
386: Truckee-----	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
387: Truckee-----	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Humboldt-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
388: Tunnison-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
389: Tunnison-----	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Devada-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
390: Tunnison-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Devada-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
391: Ulhalf-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
392: Ulhalf-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
393: Ulhalf-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Gavel-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
394: Ulhalf-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Southpac-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
395: Verdico-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Chalco-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
396: Wespac-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.00 0.82
397: Wespac-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Playas-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
398: Weste-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Baileycreek-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Tahand-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
399: Waste-----	65	Fair Bottom layer Thickest layer	0.00 0.06	Fair Bottom layer Thickest layer	0.00 0.04
Rock outcrop-----	15	Not rated Bottom layer	0.00	Not rated Bottom layer	0.00
400: Whitinger-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Devada-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
401: Whorled-----	45	Fair Thickest layer Bottom layer	0.19 0.19	Fair Bottom layer Thickest layer	0.02 0.02
Almanor-----	35	Fair Bottom layer Thickest layer	0.09 0.09	Poor Bottom layer Thickest layer	0.00 0.00
402: Wylo-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Bucklake-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
403: Wylo-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Diaz-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Brubeck-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
404: Wylo-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Pickup-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Bucklake-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

TABLE 14.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
405: Xerolls-----	55	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.03 0.14
Aquolls-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.00 0.03
406: Yobe-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
407: Zorravista-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.08 0.33
408: Zorravista-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.33 0.82
409: Water-----	100	Not rated Bottom layer	 0.00	Not rated Bottom layer	 0.00

TABLE 15.--CONSTRUCTION MATERIALS

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
101: Almanor-----	40	Not rated Droughty Too acid	0.10 0.99	Poor Depth to bedrock Cobble content	0.00 0.57	Not rated Hard to reclaim Rock fragments Slope	0.00 0.00 0.96
Whorled-----	35	Poor Droughty Depth to bedrock Too acid	0.00 0.26 0.99	Poor Depth to bedrock	0.00	Poor Rock fragments Depth to bedrock Slope	0.00 0.26 0.96
Inville-----	20	Poor Droughty Low content of organic matter Too acid	0.00 0.88 0.95	Fair Depth to bedrock Cobble content	0.12 0.99	Poor Hard to reclaim Rock fragments	0.00 0.00
102: Alomax, very stony sandy loam-----	40	Poor Droughty Depth to bedrock Stone content	0.00 0.00 0.00	Poor Depth to bedrock Slope Stone content	0.00 0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.00
Glean-----	25	Fair Droughty	0.17	Fair Depth to bedrock Slope	0.12 0.50	Poor Rock fragments Hard to reclaim Slope	0.00 0.00 0.00
Rock outcrop-----	25	Not rated Low content of organic matter Depth to bedrock	0.00 0.00	Not rated Depth to bedrock Slope	0.00 0.00	Not rated Depth to bedrock Slope	0.00 0.00
103: Anawalt-----	50	Poor Droughty Depth to bedrock Too clayey Stone content Low content of organic matter	0.00 0.00 0.00 0.75 0.88	Poor Depth to bedrock Low strength Shrink-swell Stone content	0.00 0.00 0.12 0.93	Poor Depth to bedrock Too clayey Rock fragments Slope	0.00 0.00 0.12 0.84
Ninemile-----	30	Poor Too clayey Droughty Depth to bedrock	0.00 0.00 0.00	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock Slope Rock fragments	0.00 0.00 0.84 0.95
104: Ardep-----	85	Fair Sodium content Salinity Low content of organic matter Carbonate content Water erosion	0.40 0.88 0.88 0.95 0.99	Good		Fair Sodium content Carbonate content	0.40 0.95

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
105: Ardep-----	85	Fair Low content of organic matter Sodium content Droughty Salinity Water erosion Carbonate content	0.12 0.40 0.56 0.88 0.99 0.99	Fair Depth to saturated zone	0.91	Poor Salinity Sodium content Depth to saturated zone Carbonate content	0.00 0.40 0.91 0.99
106: Ardep-----	85	Poor Too sandy Too alkaline Salinity Low content of organic matter Droughty Sodium content Carbonate content Water erosion	0.00 0.00 0.00 0.12 0.29 0.40 0.95 0.99	Good		Poor Too sandy Sodium content Salinity Carbonate content	0.00 0.00 0.00 0.99
107: Ardep-----	85	Fair Low content of organic matter Sodium content Salinity Droughty Water erosion Carbonate content	0.12 0.40 0.88 0.95 0.99 0.99	Good		Poor Salinity Sodium content Carbonate content	0.00 0.40 0.99
108: Ardep-----	40	Fair Sodium content Salinity Low content of organic matter Carbonate content Water erosion	0.40 0.88 0.88 0.95 0.99	Good		Fair Sodium content Carbonate content	0.40 0.95
Wespac-----	35	Poor Wind erosion Sodium content Low content of organic matter Salinity Water erosion	0.00 0.00 0.12 0.50 0.68	Good		Poor Sodium content Salinity	0.00 0.00
Zorravista-----	15	Poor Too sandy Wind erosion Droughty Low content of organic matter	0.00 0.00 0.09 0.12	Good		Poor Too sandy	0.00
109: Artray-----	85	Fair Too acid	0.99	Poor Depth to saturated zone	0.00	Poor Depth to saturated zone	0.00
110: Badenaugh-----	80	Fair Low content of organic matter Droughty Cobble content	0.12 0.33 0.57	Fair Cobble content	0.23	Poor Hard to reclaim Rock fragments Slope	0.00 0.00 0.84

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
111: Baileycreek-----	45	Poor Droughty Depth to bedrock Too acid	0.00 0.54 0.99	Poor Depth to bedrock	0.00	Poor Rock fragments Depth to bedrock Slope	0.00 0.54 0.84
Weste-----	35	Poor Droughty Depth to bedrock Too acid	0.00 0.21 0.99	Poor Depth to bedrock	0.00	Poor Rock fragments Depth to bedrock Slope	0.00 0.21 0.84
112: Baileycreek-----	50	Poor Droughty Depth to bedrock Stone content Too acid	0.00 0.05 0.66 0.99	Poor Depth to bedrock Slope Stone content	0.00 0.18 0.86	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.05
Weste-----	35	Poor Droughty Stone content Depth to bedrock Too acid	0.00 0.73 0.84 0.99	Poor Depth to bedrock Slope Stone content Cobble content	0.00 0.18 0.86 0.97	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.84
113: Baileycreek-----	50	Poor Droughty Depth to bedrock Too acid	0.00 0.01 0.99	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.01
Weste-----	35	Poor Droughty Stone content Depth to bedrock Too acid	0.00 0.22 0.46 0.99	Poor Depth to bedrock Slope Stone content Cobble content	0.00 0.00 0.44 0.99	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.46
114: Barnard-----	70	Poor Too clayey Depth to cemented pan Droughty Low content of organic matter	0.00 0.00 0.00 0.88	Poor Depth to cemented pan Low strength Shrink-swell	0.00 0.00 0.19	Poor Too clayey Depth to cemented pan Slope	0.00 0.00 0.96
115: Beckwourth-----	50	Poor Wind erosion Too sandy Droughty Low content of organic matter	0.00 0.09 0.56 0.88	Good		Fair Too sandy	0.09
Fordney-----	35	Poor Wind erosion Too sandy	0.00 0.00	Good		Poor Too sandy	0.00
116: Bieber-----	80	Poor Droughty Depth to cemented pan Too clayey Low content of organic matter	0.00 0.00 0.00 0.00 0.12	Poor Depth to cemented pan Low strength Shrink-swell	0.00 0.00 0.12	Poor Depth to cemented pan Too clayey Rock fragments	0.00 0.00 0.88

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
117: Biscaro-----	85	Fair Sodium content Low content of organic matter Depth to bedrock	0.22 0.88 0.99	Poor Depth to bedrock Depth to saturated zone Shrink-swell Low strength	0.00 0.00 0.60 0.78	Poor Depth to saturated zone Sodium content Depth to bedrock	0.00 0.78 0.99
118: Biscaro-----	50	Fair Sodium content Low content of organic matter Droughty Depth to bedrock	0.22 0.88 0.94 0.99	Poor Depth to bedrock Depth to saturated zone Shrink-swell Low strength	0.00 0.00 0.60 0.78	Poor Depth to saturated zone Sodium content Depth to bedrock	0.00 0.78 0.99
Calnat-----	35	Poor Wind erosion Salinity Sodium content Droughty Water erosion Low content of organic matter Carbonate content Depth to bedrock	0.00 0.00 0.00 0.00 0.37 0.88 0.92 0.99	Poor Depth to bedrock Shrink-swell	0.00 0.99	Poor Sodium content Salinity Depth to bedrock	0.00 0.00 0.99
119: Biscaro-----	65	Poor Too clayey Sodium content Droughty Water erosion Low content of organic matter Depth to bedrock	0.00 0.22 0.61 0.68 0.88 0.97	Poor Depth to bedrock Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.00 0.70	Poor Depth to saturated zone Too clayey Sodium content Depth to bedrock	0.00 0.00 0.22 0.97
Playas, silty clay--	20	Poor Droughty Low content of organic matter Salinity Too clayey Too alkaline Water erosion	0.00 0.00 0.00 0.00 0.00 0.99	Not rated Shrink-swell	0.12	Not rated Salinity	0.00
120: Blickenstaff-----	85	Poor Too alkaline Low content of organic matter Sodium content Droughty	0.00 0.12 0.40 0.99	Good		Poor Rock fragments Sodium content Hard to reclaim	0.00 0.40 0.82
121: Honeylake-----	95	Poor Sodium content Too alkaline Water erosion	0.00 0.00 0.99	Fair Depth to saturated zone	0.96	Poor Sodium content Salinity Depth to saturated zone	0.00 0.50 0.96

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
122: Robert-----	90	Poor Sodium content Salinity Low content of organic matter	0.00 0.00 0.12	Good		Poor Sodium content Salinity	0.00 0.00
123: Robert-----	85	Poor Sodium content Low content of organic matter Salinity	0.00 0.12 0.50	Good		Poor Sodium content Salinity	0.00 0.00
124: Bonta-----	80	Fair Droughty Too acid Low content of organic matter Depth to bedrock	0.17 0.84 0.88 0.93	Poor Depth to bedrock	0.00	Fair Slope Rock fragments Depth to bedrock	0.37 0.88 0.93
125: Bonta-----	80	Fair Droughty Too acid Low content of organic matter Depth to bedrock	0.17 0.84 0.88 0.93	Poor Depth to bedrock Slope	0.00 0.08	Poor Slope Rock fragments Depth to bedrock	0.00 0.88 0.93
126: Bonta-----	75	Poor Droughty Depth to bedrock Too acid Low content of organic matter	0.00 0.84 0.84 0.88	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.84
127: Boulder Lake-----	90	Poor Too clayey Low content of organic matter	0.00 0.88	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.34	Poor Too clayey Depth to saturated zone	0.00 0.00
128: Boulder Lake-----	95	Poor Too clayey Low content of organic matter	0.00 0.88	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.34	Poor Too clayey Depth to saturated zone	0.00 0.00
129: Brubeck-----	85	Poor Too clayey Droughty Depth to bedrock Low content of organic matter	0.00 0.65 0.71 0.88	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock	0.00 0.71

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
130: Brubeck-----	80	Poor Too clayey Droughty Depth to bedrock Low content of organic matter	0.00 0.65 0.71 0.88	Poor Depth to bedrock Low strength Shrink-swell Slope	0.00 0.00 0.12 0.82	Poor Too clayey Slope Depth to bedrock	0.00 0.00 0.71
131: Brubeck-----	50	Poor Too clayey Droughty Depth to bedrock Low content of organic matter	0.00 0.65 0.71 0.88	Poor Depth to bedrock Low strength Shrink-swell Slope	0.00 0.00 0.12 0.98	Poor Too clayey Slope Depth to bedrock	0.00 0.00 0.71
Diaz-----	35	Poor Too clayey Droughty Depth to bedrock Low content of organic matter Water erosion	0.00 0.13 0.16 0.88 0.99	Poor Depth to bedrock Low strength Shrink-swell Slope	0.00 0.00 0.12 0.98	Poor Too clayey Slope Depth to bedrock Rock fragments	0.00 0.00 0.16 0.88
132: Brubeck-----	50	Poor Too clayey Droughty Depth to bedrock Low content of organic matter	0.00 0.65 0.71 0.88	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock	0.00 0.71
Loomis-----	35	Poor Too clayey Droughty Depth to bedrock Low content of organic matter Cobble content	0.00 0.00 0.00 0.88 0.90	Poor Depth to bedrock Cobble content Slope Shrink-swell	0.00 0.71 0.82 0.87	Poor Too clayey Rock fragments Depth to bedrock Slope	0.00 0.00 0.00 0.00
133: Buckbay-----	35	Fair Droughty Depth to bedrock	0.07 0.46	Poor Depth to bedrock Slope Shrink-swell	0.00 0.50 0.92	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.46
Orhood-----	25	Poor Stone content Droughty Depth to bedrock Low content of organic matter Cobble content	0.00 0.00 0.00 0.88 0.95	Poor Depth to bedrock Stone content Slope Cobble content	0.00 0.00 0.50 0.60	Poor Rock fragments Depth to bedrock Slope	0.00 0.00 0.00
Devada-----	20	Poor Too clayey Droughty Depth to bedrock	0.00 0.00 0.00	Poor Depth to bedrock Low strength Shrink-swell Cobble content	0.00 0.00 0.12 0.91	Poor Too clayey Depth to bedrock Rock fragments	0.00 0.00 0.28
134: Buckbay-----	40	Fair Droughty Depth to bedrock	0.07 0.46	Poor Depth to bedrock Slope Shrink-swell	0.00 0.82 0.90	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.46

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Orhood-----	25	Poor Stone content Droughty Depth to bedrock Low content of organic matter Cobble content	0.00 0.00 0.00 0.88 0.95	Poor Depth to bedrock Stone content Cobble content Slope	0.00 0.00 0.60 0.82	Poor Rock fragments Depth to bedrock Slope	0.00 0.00 0.00
Fredonyer-----	20	Poor Droughty Depth to bedrock Stone content Cobble content	0.00 0.35 0.98 0.98	Poor Depth to bedrock Slope Cobble content	0.00 0.82 0.86	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.35
135: Bucklake-----	30	Poor Droughty Too clayey Depth to bedrock Stone content Low content of organic matter	0.00 0.00 0.10 0.80 0.88	Poor Depth to bedrock Slope Low strength Shrink-swell Stone content	0.00 0.00 0.00 0.20 0.99	Poor Slope Rock fragments Too clayey Depth to bedrock	0.00 0.00 0.00 0.00 0.10
Corral-----	30	Poor Droughty Depth to bedrock Low content of organic matter	0.00 0.00 0.82	Poor Depth to bedrock Slope Low strength Shrink-swell	0.00 0.00 0.22 0.87	Poor Slope Depth to bedrock Rock fragments	0.00 0.00 0.88
Rubble land-----	25	Not rated Stone content Droughty Low content of organic matter Cobble content	0.00 0.00 0.01 0.08	Not rated Slope Stone content Cobble content	0.00 0.00 0.00	Not rated Slope Hard to reclaim Hard to reclaim Rock fragments	0.00 0.00 0.00 0.00
136: Bunanch-----	90	Poor Too clayey Low content of organic matter Droughty Too acid	0.00 0.88 0.93 0.99	Fair Slope Shrink-swell	0.50 0.87	Poor Too clayey Hard to reclaim Rock fragments Slope	0.00 0.00 0.00 0.00
137: Cagwin-----	85	Poor Droughty Too sandy Too acid Depth to bedrock	0.00 0.20 0.84 0.93	Poor Depth to bedrock Slope	0.00 0.08	Poor Slope Too sandy Rock fragments Depth to bedrock	0.00 0.20 0.24 0.93
138: Cagwin-----	85	Poor Droughty Too sandy Too acid Depth to bedrock	0.00 0.20 0.84 0.93	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Too sandy Depth to bedrock	0.00 0.12 0.20 0.93

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
139: Calnat-----	90	Poor Droughty Salinity Sodium content Depth to bedrock Water erosion Low content of organic matter Carbonate content	0.00 0.00 0.00 0.35 0.37 0.88 0.92	Poor Depth to bedrock	0.00	Poor Sodium content Salinity Depth to bedrock Carbonate content	0.00 0.00 0.35 0.92
140: Calneva-----	85	Poor Sodium content Salinity Low content of organic matter Water erosion	0.00 0.00 0.12 0.37	Fair Shrink-swell	0.99	Poor Sodium content Salinity	0.00 0.00
141: Calneva-----	65	Poor Sodium content Salinity Low content of organic matter Water erosion	0.00 0.00 0.12 0.37	Fair Shrink-swell	0.99	Poor Sodium content Salinity	0.00 0.00
Playas, silty clay--	20	Poor Droughty Low content of organic matter Salinity Too clayey Too alkaline Water erosion	0.00 0.00 0.00 0.00 0.00 0.99	Not rated Shrink-swell	0.12	Not rated Salinity	0.00
142: Calpine-----	85	Fair Low content of organic matter	0.88	Good		Fair Hard to reclaim Rock fragments	0.50 0.97
143: Calpine-----	80	Good		Good		Fair Rock fragments	0.97
144: Calpine-----	80	Good		Good		Fair Rock fragments	0.97
145: Calpine-----	90	Good		Good		Fair Slope Rock fragments	0.84 0.97
146: Indiano-----	50	Fair Depth to bedrock Droughty Low content of organic matter	0.29 0.61 0.88	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.78 0.87	Fair Rock fragments Depth to bedrock	0.03 0.29
Chalco-----	30	Poor Too clayey Droughty Depth to bedrock Low content of organic matter	0.00 0.00 0.00 0.12	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock Rock fragments	0.00 0.00 0.97

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
147: Capona-----	55	Fair Low content of organic matter Depth to bedrock	0.12 0.99	Poor Depth to bedrock	0.00	Fair Rock fragments Depth to bedrock	0.68 0.99
Rock outcrop-----	30	Not rated Low content of organic matter	0.00	Not rated		Not rated	
148: Cewat-----	80	Poor Droughty Depth to bedrock Low content of organic matter	0.00 0.01 0.32	Poor Depth to bedrock Cobble content	0.00 0.99	Poor Rock fragments Depth to bedrock Slope	0.00 0.01 0.84
149: Cewat-----	35	Poor Droughty Depth to bedrock Low content of organic matter	0.00 0.01 0.32	Poor Depth to bedrock Cobble content	0.00 0.99	Poor Rock fragments Depth to bedrock Slope	0.00 0.01 0.84
McConnel-----	35	Poor Droughty Salinity Low content of organic matter Sodium content	0.00 0.00 0.12 0.78	Good		Poor Hard to reclaim Rock fragments Salinity Sodium content Slope	0.00 0.00 0.00 0.78 0.84
Toulon-----	15	Fair Droughty Low content of organic matter Sodium content	0.03 0.12 0.90	Good		Poor Hard to reclaim Rock fragments Sodium content	0.00 0.00 0.90
150: Chappuis-----	80	Poor Salinity Sodium content Low content of organic matter Water erosion	0.00 0.00 0.88 0.99	Poor Low strength Shrink-swell	0.00 0.79	Poor Sodium content Salinity	0.00 0.00
151: Chappuis-----	85	Poor Salinity Sodium content Low content of organic matter Water erosion	0.00 0.00 0.12 0.68	Good		Poor Sodium content Salinity Rock fragments	0.00 0.00 0.97
152: Chimney-----	90	Fair Droughty Too sandy Low content of organic matter Too acid	0.01 0.36 0.88 0.99	Good		Poor Rock fragments Too sandy	0.00 0.36

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
153: Chimney-----	85	Fair Droughty Too sandy Low content of organic matter Too acid	0.01 0.36 0.88 0.99	Good		Poor Rock fragments Too sandy Slope	0.00 0.36 0.37
154: Chimney-----	35	Fair Droughty Too sandy Low content of organic matter Too acid	0.01 0.36 0.88 0.99	Poor Slope	0.00	Poor Slope Rock fragments Too sandy	0.00 0.00 0.36
Janile-----	35	Poor Droughty Depth to bedrock Too sandy Low content of organic matter	0.00 0.10 0.20 0.88	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock Too sandy	0.00 0.00 0.10 0.20
Waterman-----	15	Poor Droughty Depth to bedrock Too sandy Low content of organic matter	0.00 0.00 0.01 0.12	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock Too sandy	0.00 0.00 0.00 0.01
155: Chimney-----	40	Fair Droughty Too sandy Low content of organic matter Too acid	0.01 0.36 0.88 0.99	Poor Slope	0.00	Poor Slope Rock fragments Too sandy	0.00 0.00 0.36
Janile-----	30	Poor Droughty Depth to bedrock Too sandy Low content of organic matter	0.00 0.10 0.20 0.88	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock Too sandy	0.00 0.00 0.10 0.20
Waterman-----	15	Poor Droughty Depth to bedrock Too sandy Low content of organic matter	0.00 0.00 0.01 0.12	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock Too sandy	0.00 0.00 0.00 0.01
156: Chimney-----	65	Fair Droughty Too sandy Low content of organic matter Too acid	0.01 0.36 0.88 0.99	Fair Slope	0.08	Poor Slope Rock fragments Too sandy	0.00 0.00 0.36

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Waterman-----	20	Poor Droughty Depth to bedrock Too sandy Low content of organic matter	0.00 0.00 0.01 0.12	Poor Depth to bedrock	0.00	Poor Rock fragments Depth to bedrock Too sandy Slope	0.00 0.00 0.01 0.37
157: Chirpchatter-----	85	Good		Fair Shrink-swell	0.89	Fair Rock fragments	0.88
158: Cleghorn-----	90	Fair Low content of organic matter	0.12	Good		Fair Rock fragments	0.97
159: Cleghorn-----	85	Fair Low content of organic matter	0.12	Good		Fair Rock fragments	0.97
160: Cochran-----	85	Fair Too clayey Droughty Stone content Low content of organic matter Cobble content	0.02 0.46 0.80 0.88 0.97	Fair Cobble content	0.67	Poor Hard to reclaim Rock fragments Too clayey Slope	0.00 0.00 0.01 0.96
161: Cochran-----	90	Poor Too clayey Droughty Cobble content Stone content Low content of organic matter	0.00 0.27 0.68 0.72 0.88	Fair Cobble content Stone content	0.01 0.99	Poor Hard to reclaim Rock fragments Too clayey Slope	0.00 0.00 0.00 0.84
162: Corral-----	85	Poor Depth to bedrock Droughty Low content of organic matter	0.00 0.00 0.88	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.22 0.87	Poor Depth to bedrock Rock fragments	0.00 0.88
163: Corral-----	85	Poor Depth to bedrock Droughty Low content of organic matter	0.00 0.00 0.88	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.22 0.87	Poor Depth to bedrock Rock fragments	0.00 0.88
164: Corral-----	90	Poor Droughty Depth to bedrock Low content of organic matter	0.00 0.00 0.88	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.22 0.87	Poor Depth to bedrock Slope Rock fragments	0.00 0.84 0.97
165: Corral-----	85	Poor Droughty Depth to bedrock Low content of organic matter	0.00 0.00 0.88	Poor Depth to bedrock Slope Low strength Shrink-swell	0.00 0.00 0.22 0.87	Poor Slope Depth to bedrock Rock fragments	0.00 0.00 0.97

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
166: Corral-----	85	Poor Droughty Depth to bedrock Low content of organic matter	0.00 0.00 0.88	Poor Depth to bedrock Low strength Slope Shrink-swell	0.00 0.22 0.82 0.87	Poor Depth to bedrock Slope Rock fragments	0.00 0.00 0.88
167: Corral-----	50	Poor Depth to bedrock Droughty Low content of organic matter	0.00 0.00 0.88	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.22 0.87	Poor Depth to bedrock Rock fragments	0.00 0.88
Chalco-----	35	Poor Too clayey Droughty Depth to bedrock Low content of organic matter	0.00 0.00 0.00 0.12	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock Rock fragments	0.00 0.00 0.97
168: Corral-----	60	Poor Droughty Depth to bedrock Low content of organic matter	0.00 0.00 0.88	Poor Depth to bedrock Slope Low strength Shrink-swell	0.00 0.00 0.22 0.87	Poor Slope Depth to bedrock Rock fragments	0.00 0.00 0.97
Glenbrook-----	20	Poor Droughty Depth to bedrock Low content of organic matter Too sandy	0.00 0.00 0.12 0.31	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Depth to bedrock Rock fragments Too sandy	0.00 0.00 0.00 0.31
169: Devada-----	50	Poor Too clayey Droughty Depth to bedrock Stone content	0.00 0.00 0.00 0.87	Poor Depth to bedrock Low strength Shrink-swell Stone content	0.00 0.00 0.12 0.99	Poor Too clayey Depth to bedrock Rock fragments	0.00 0.00 0.28
Brubeck-----	45	Poor Too clayey Droughty Depth to bedrock Low content of organic matter	0.00 0.65 0.71 0.88	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock	0.00 0.71
170: Devada-----	35	Poor Too clayey Droughty Depth to bedrock Stone content	0.00 0.00 0.00 0.98	Poor Depth to bedrock Shrink-swell Slope	0.00 0.97 0.98	Poor Too clayey Depth to bedrock Slope Rock fragments	0.00 0.00 0.00 0.28
Bucklake-----	35	Poor Droughty Too clayey Depth to bedrock Stone content Low content of organic matter	0.00 0.00 0.10 0.80 0.88	Poor Depth to bedrock Low strength Shrink-swell Slope Stone content	0.00 0.00 0.20 0.50 0.99	Poor Rock fragments Too clayey Slope Depth to bedrock	0.00 0.00 0.00 0.10

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
171: Devada-----	40	Poor Too clayey Droughty Stone content	0.00 0.00 0.87	Poor Slope Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Slope Rock fragments	0.00 0.00 0.28
Fivesprings-----	25	Poor Droughty Too clayey Depth to bedrock	0.00 0.00 0.05	Poor Depth to bedrock Slope Shrink-swell	0.00 0.00 0.12	Poor Slope Rock fragments Too clayey Depth to bedrock	0.00 0.00 0.00 0.05
Rubble land-----	20	Not rated Stone content Droughty Low content of organic matter Cobble content	0.00 0.00 0.01 0.08	Not rated Stone content Cobble content Slope	0.00 0.00 0.00	Not rated Slope Hard to reclaim Hard to reclaim Rock fragments	0.00 0.00 0.00 0.00
172: Devada-----	60	Poor Too clayey Droughty Depth to bedrock Stone content	0.00 0.00 0.00 0.00	Poor Depth to bedrock Low strength Stone content Shrink-swell Slope	0.00 0.00 0.00 0.12 0.50	Poor Too clayey Depth to bedrock Slope Rock fragments	0.00 0.00 0.00 0.28
Gavel-----	35	Poor Droughty Depth to bedrock	0.00 0.26	Poor Depth to bedrock Slope	0.00 0.50	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.26
173: Devada-----	40	Poor Too clayey Droughty Depth to bedrock Stone content	0.00 0.00 0.00 0.20	Poor Depth to bedrock Low strength Shrink-swell Stone content	0.00 0.00 0.12 0.62	Poor Too clayey Depth to bedrock Rock fragments Slope	0.00 0.00 0.28 0.84
Gavel-----	25	Poor Droughty Depth to bedrock	0.00 0.26	Poor Depth to bedrock Slope	0.00 0.08	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.26
Whitinger-----	15	Poor Stone content Droughty Low content of organic matter Depth to bedrock	0.00 0.00 0.12 0.21	Poor Depth to bedrock Stone content Slope Cobble content	0.00 0.00 0.08 0.97	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.21
174: Devada-----	35	Poor Too clayey Droughty Depth to bedrock Stone content	0.00 0.00 0.00 0.87	Poor Depth to bedrock Slope Low strength Shrink-swell	0.00 0.00 0.00 0.12	Poor Slope Too clayey Depth to bedrock Rock fragments	0.00 0.00 0.00 0.28
Glean-----	30	Fair Droughty	0.08	Poor Slope Depth to bedrock	0.00 0.12	Poor Slope Rock fragments Hard to reclaim	0.00 0.00 0.00
Sumine-----	20	Fair Droughty Stone content Depth to bedrock	0.33 0.72 0.84	Poor Depth to bedrock Slope Stone content Cobble content	0.00 0.00 0.85 0.87	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.84

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
175: Devada-----	60	Poor Too clayey Droughty Depth to bedrock	 0.00 0.00 0.00	Poor Depth to bedrock Low strength Shrink-swell Slope	 0.00 0.00 0.12 0.98	Poor Too clayey Depth to bedrock Slope Rock fragments	 0.00 0.00 0.00 0.28
Longcreek-----	30	Poor Too clayey Droughty Depth to bedrock Cobble content Stone content Low content of organic matter	 0.00 0.00 0.00 0.53 0.84 0.88	Poor Depth to bedrock Low strength Cobble content Shrink-swell Slope	 0.00 0.00 0.59 0.87 0.98	Poor Too clayey Rock fragments Depth to bedrock Slope	 0.00 0.00 0.00 0.00
176: Devada-----	30	Poor Too clayey Droughty Depth to bedrock Stone content	 0.00 0.00 0.00 0.20	Poor Depth to bedrock Low strength Shrink-swell Stone content	 0.00 0.00 0.12 0.62	Poor Too clayey Depth to bedrock Rock fragments Slope	 0.00 0.00 0.28 0.84
Orhood-----	30	Poor Stone content Droughty Depth to bedrock Low content of organic matter Cobble content	 0.00 0.00 0.00 0.88 0.95	Poor Depth to bedrock Stone content Cobble content Slope	 0.00 0.00 0.60 0.82	Poor Rock fragments Depth to bedrock Slope	 0.00 0.00 0.00
Hart Camp-----	25	Poor Droughty Depth to bedrock	 0.00 0.00	Poor Depth to bedrock Slope Shrink-swell	 0.00 0.50 0.87	Poor Depth to bedrock Rock fragments Slope	 0.00 0.00 0.00
177: Devada-----	40	Poor Too clayey Droughty Depth to bedrock Stone content	 0.00 0.00 0.00 0.20	Poor Depth to bedrock Slope Low strength Shrink-swell Stone content	 0.00 0.00 0.00 0.12 0.62	Poor Slope Too clayey Depth to bedrock Rock fragments	 0.00 0.00 0.00 0.28
Fapeek-----	30	Poor Too clayey Droughty Depth to bedrock Low content of organic matter	 0.00 0.76 0.79 0.88	Poor Depth to bedrock Slope Low strength Shrink-swell	 0.00 0.00 0.00 0.39	Poor Slope Too clayey Rock fragments Depth to bedrock	 0.00 0.00 0.72 0.79
Gavel-----	20	Poor Droughty Depth to bedrock	 0.00 0.26	Poor Depth to bedrock Slope	 0.00 0.00	Poor Slope Rock fragments Depth to bedrock	 0.00 0.00 0.26
178: Devada-----	40	Poor Too clayey Droughty Depth to bedrock Stone content	 0.00 0.00 0.00 0.20	Poor Depth to bedrock Low strength Shrink-swell Stone content	 0.00 0.00 0.12 0.62	Poor Too clayey Depth to bedrock Rock fragments Slope	 0.00 0.00 0.28 0.96
Petescreek-----	25	Poor Droughty Depth to bedrock	 0.00 0.29	Poor Depth to bedrock Slope	 0.00 0.08	Poor Slope Rock fragments Depth to bedrock	 0.00 0.03 0.29

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Fiddler-----	20	Poor Stone content Droughty Too clayey Depth to bedrock Cobble content Low content of organic matter	0.00 0.00 0.00 0.05 0.15 0.88	Poor Depth to bedrock Low strength Stone content Cobble content Slope Shrink-swell	0.00 0.00 0.00 0.00 0.82 0.87	Poor Rock fragments Too clayey Slope Depth to bedrock	0.00 0.00 0.00 0.05
179: Devada-----	70	Poor Too clayey Droughty Depth to bedrock	0.00 0.00 0.00	Poor Depth to bedrock Slope Low strength Shrink-swell Cobble content	0.00 0.00 0.00 0.12 0.91	Poor Too clayey Depth to bedrock Slope Rock fragments	0.00 0.00 0.00 0.28
Rock outcrop-----	20	Not rated Low content of organic matter	0.00	Not rated Slope	0.00	Not rated Slope	0.00
180: Dotta-----	95	Fair Low content of organic matter	0.88	Fair Shrink-swell	0.90	Poor Rock fragments Hard to reclaim	0.00 0.50
181: Dotta-----	90	Fair Low content of organic matter Droughty	0.88 0.99	Good		Poor Rock fragments Hard to reclaim	0.00 0.50
182: Dryvalley-----	90	Fair Too clayey Water erosion	0.50 0.90	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.93	Poor Depth to saturated zone Sodium content Too clayey	0.00 0.40 0.44
183: Dryvalley-----	75	Poor Too clayey Low content of organic matter Water erosion	0.00 0.88 0.99	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.51	Poor Too clayey Depth to saturated zone	0.00 0.00
Playas, silty clay--	15	Poor Droughty Low content of organic matter Salinity Too clayey Too alkaline Water erosion	0.00 0.00 0.00 0.00 0.00 0.99	Not rated Shrink-swell	0.12	Not rated Salinity	0.00
184: Eaglelake-----	85	Fair Too acid Too clayey	0.84 0.98	Fair Depth to bedrock Shrink-swell	0.87 0.94	Poor Rock fragments Hard to reclaim Too clayey	0.00 0.68 0.93

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
185: Eaglelake-----	50	Fair Too acid Too clayey	0.84 0.98	Fair Slope Depth to bedrock Shrink-swell	0.50 0.87 0.93	Poor Rock fragments Slope Hard to reclaim Too clayey	0.00 0.00 0.68 0.93
Outland-----	25	Poor Droughty Depth to bedrock Too acid	0.00 0.93 0.99	Poor Depth to bedrock Slope Cobble content	0.00 0.50 0.68	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.93
Weste-----	15	Poor Droughty Stone content Depth to bedrock Too acid	0.00 0.02 0.10 0.99	Poor Depth to bedrock Slope Stone content	0.00 0.50 0.52	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.10
186: Eaglelake-----	45	Fair Too acid Too clayey	0.84 0.98	Poor Slope Depth to bedrock Shrink-swell	0.00 0.87 0.93	Poor Slope Rock fragments Hard to reclaim Too clayey	0.00 0.00 0.68 0.93
Outland-----	25	Poor Droughty Depth to bedrock Too acid	0.00 0.93 0.99	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.68	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.93
Weste-----	15	Poor Droughty Stone content Depth to bedrock Too acid	0.00 0.02 0.10 0.99	Poor Depth to bedrock Slope Stone content	0.00 0.00 0.52	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.10
187: Eaglelake-----	45	Fair Too acid Droughty Too clayey	0.84 0.97 0.98	Fair Depth to bedrock Slope Shrink-swell	0.07 0.50 0.90	Poor Rock fragments Slope Hard to reclaim Too clayey	0.00 0.00 0.68 0.93
Outland-----	25	Poor Droughty Depth to bedrock Stone content Too acid	0.00 0.10 0.66 0.99	Poor Depth to bedrock Slope Stone content Cobble content	0.00 0.82 0.84 0.93	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.10
Weste-----	15	Poor Droughty Depth to bedrock Stone content Too acid	0.00 0.10 0.50 0.99	Poor Depth to bedrock Slope Stone content Cobble content	0.00 0.50 0.74 0.99	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.10
188: Eaglelake-----	45	Fair Too acid Droughty Too clayey	0.84 0.97 0.98	Poor Slope Depth to bedrock Shrink-swell	0.00 0.07 0.90	Poor Slope Rock fragments Hard to reclaim Too clayey	0.00 0.00 0.68 0.93
Outland-----	25	Poor Droughty Depth to bedrock Stone content Too acid	0.00 0.10 0.91 0.99	Poor Depth to bedrock Slope Cobble content Stone content	0.00 0.00 0.85 0.98	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.10

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Weste-----	15	Poor Droughty Depth to bedrock Stone content Too acid	0.00 0.10 0.50 0.99	Poor Depth to bedrock Slope Stone content Cobble content	0.00 0.00 0.74 0.99	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.10
189: Easte-----	55	Fair Droughty Too acid	0.39 0.84	Poor Slope Depth to bedrock	0.00 0.99	Poor Slope Hard to reclaim Rock fragments	0.00 0.00 0.00
Fredonyer-----	30	Poor Droughty Depth to bedrock Stone content Cobble content	0.00 0.35 0.98 0.98	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.86	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.35
190: Easte-----	50	Poor Droughty Too acid	0.00 0.84	Fair Depth to bedrock Slope Cobble content	0.07 0.82 0.93	Poor Hard to reclaim Rock fragments Slope	0.00 0.00 0.00
Roop-----	35	Poor Droughty Too acid Depth to bedrock	0.00 0.74 0.93	Poor Depth to bedrock Slope Cobble content	0.00 0.82 0.90	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.93
191: Easte-----	50	Poor Droughty Too acid	0.00 0.84	Poor Slope Depth to bedrock Cobble content	0.00 0.04 0.93	Poor Slope Hard to reclaim Rock fragments	0.00 0.00 0.00
Roop-----	40	Poor Droughty Too acid Depth to bedrock	0.00 0.74 0.93	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.90	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.93
192: Epot-----	55	Poor Salinity Sodium content Too alkaline Low content of organic matter Water erosion Too clayey	0.00 0.00 0.00 0.12 0.37 0.88	Good		Poor Sodium content Salinity Too clayey	0.00 0.00 0.51
Playas, silty clay--	15	Poor Droughty Low content of organic matter Salinity Too clayey Too alkaline Water erosion	0.00 0.00 0.00 0.00 0.00 0.99	Not rated Shrink-swell	0.12	Not rated Salinity	0.00
193: Epot-----	40	Poor Salinity Sodium content Too alkaline Low content of organic matter Water erosion Too clayey	0.00 0.00 0.00 0.12 0.37 0.88	Good		Poor Sodium content Salinity Too clayey	0.00 0.00 0.51

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ragtown-----	30	Poor Too clayey Low content of organic matter Sodium content Water erosion	0.00 0.50 0.90 0.99	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey Sodium content	0.00 0.90
Playas, silty clay--	20	Poor Droughty Low content of organic matter Salinity Too clayey Too alkaline Water erosion	0.00 0.00 0.00 0.00 0.00 0.99	Not rated Shrink-swell	0.12	Not rated Salinity	0.00
194: Fiddler-----	35	Poor Stone content Droughty Too clayey Depth to bedrock Cobble content Low content of organic matter	0.00 0.00 0.00 0.05 0.15 0.88	Poor Depth to bedrock Low strength Stone content Cobble content Slope Shrink-swell	0.00 0.00 0.00 0.00 0.82 0.87	Poor Rock fragments Too clayey Slope Depth to bedrock	0.00 0.00 0.00 0.05
Gavel-----	30	Poor Droughty Depth to bedrock	0.00 0.26	Poor Depth to bedrock Slope	0.00 0.82	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.26
Rubble land-----	15	Not rated Stone content Droughty Low content of organic matter Cobble content	0.00 0.00 0.01 0.16	Not rated Stone content Cobble content Slope	0.00 0.00 0.08	Not rated Slope Hard to reclaim Hard to reclaim Rock fragments	0.00 0.00 0.00 0.00
195: Fiddler-----	40	Poor Stone content Droughty Too clayey Depth to bedrock Cobble content Low content of organic matter	0.00 0.00 0.00 0.05 0.15 0.88	Poor Depth to bedrock Slope Low strength Stone content Cobble content Shrink-swell	0.00 0.00 0.00 0.00 0.00 0.87	Poor Slope Rock fragments Too clayey Depth to bedrock	0.00 0.00 0.00 0.00 0.05
Gavel-----	25	Poor Droughty Depth to bedrock	0.00 0.26	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.26
Rubble land-----	15	Not rated Stone content Droughty Low content of organic matter Cobble content	0.00 0.00 0.01 0.08	Not rated Slope Stone content Cobble content	0.00 0.00 0.00	Not rated Slope Hard to reclaim Hard to reclaim Rock fragments	0.00 0.00 0.00 0.00

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
196: Fiddler-----	45	Poor Stone content Droughty Too clayey Depth to bedrock Cobble content Low content of organic matter	0.00 0.00 0.00 0.05 0.15 0.88	Poor Depth to bedrock Low strength Stone content Cobble content Slope Shrink-swell	0.00 0.00 0.00 0.00 0.82 0.87	Poor Rock fragments Too clayey Slope Depth to bedrock	0.00 0.00 0.00 0.05
Madeline-----	35	Poor Droughty Depth to bedrock Too clayey Stone content Low content of organic matter	0.00 0.00 0.00 0.00 0.21 0.88	Poor Depth to bedrock Low strength Shrink-swell Stone content Slope	0.00 0.00 0.12 0.61 0.82	Poor Depth to bedrock Rock fragments Too clayey Slope	0.00 0.00 0.00 0.00
197: Fiddler-----	30	Poor Stone content Droughty Too clayey Depth to bedrock Cobble content Low content of organic matter	0.00 0.00 0.00 0.05 0.15 0.88	Poor Depth to bedrock Low strength Stone content Cobble content Slope Shrink-swell	0.00 0.00 0.00 0.00 0.08 0.87	Poor Slope Rock fragments Too clayey Depth to bedrock	0.00 0.00 0.00 0.00 0.05
Orhood-----	30	Poor Stone content Droughty Depth to bedrock Low content of organic matter Cobble content	0.00 0.00 0.00 0.88 0.95	Poor Depth to bedrock Stone content Cobble content	0.00 0.00 0.60	Poor Rock fragments Depth to bedrock Slope	0.00 0.00 0.84
Petescreek-----	25	Poor Droughty Depth to bedrock	0.00 0.29	Poor Depth to bedrock Slope	0.00 0.50	Poor Slope Rock fragments Depth to bedrock	0.00 0.03 0.29
198: Fivesprings-----	50	Poor Droughty Too clayey Depth to bedrock	0.00 0.00 0.05	Poor Depth to bedrock Shrink-swell Slope	0.00 0.12 0.50	Poor Rock fragments Too clayey Slope Depth to bedrock	0.00 0.00 0.00 0.05
Longcreek-----	35	Poor Too clayey Droughty Depth to bedrock Cobble content Low content of organic matter Stone content	0.00 0.00 0.00 0.82 0.88 0.98	Poor Depth to bedrock Low strength Slope Cobble content Shrink-swell	0.00 0.00 0.50 0.82 0.87	Poor Too clayey Rock fragments Depth to bedrock Slope	0.00 0.00 0.00 0.00
199: Fivesprings-----	50	Poor Droughty Too clayey Depth to bedrock	0.00 0.00 0.05	Poor Depth to bedrock Slope Shrink-swell	0.00 0.00 0.12	Poor Slope Rock fragments Too clayey Depth to bedrock	0.00 0.00 0.00 0.05

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Longcreek-----	40	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Slope	0.00
		Droughty	0.00	Slope	0.00	Too clayey	0.00
		Depth to bedrock	0.00	Low strength	0.00	Rock fragments	0.00
		Cobble content	0.82	Cobble content	0.82	Depth to bedrock	0.00
		Low content of organic matter	0.88	Shrink-swell	0.87		
		Stone content	0.98				
200: Fivesprings-----	40	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Too clayey	0.00	Slope	0.00	Rock fragments	0.00
		Depth to bedrock	0.05	Shrink-swell	0.12	Too clayey	0.00
						Depth to bedrock	0.05
Longcreek-----	25	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.00	Low strength	0.00	Rock fragments	0.00
		Depth to bedrock	0.00	Slope	0.50	Depth to bedrock	0.00
		Cobble content	0.82	Cobble content	0.82	Slope	0.00
		Low content of organic matter	0.88	Shrink-swell	0.87		
		Stone content	0.98				
Rubble land-----	20	Not rated		Not rated		Not rated	
		Stone content	0.00	Stone content	0.00	Slope	0.00
		Droughty	0.00	Cobble content	0.00	Hard to reclaim	0.00
		Low content of organic matter	0.01	Slope	0.00	Hard to reclaim	0.00
		Cobble content	0.08			Rock fragments	0.00
201: Fivesprings-----	40	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Too clayey	0.00	Shrink-swell	0.12	Too clayey	0.00
		Depth to bedrock	0.05	Slope	0.50	Slope	0.00
						Depth to bedrock	0.05
Rubble land-----	25	Not rated		Not rated		Not rated	
		Stone content	0.00	Stone content	0.00	Hard to reclaim	0.00
		Droughty	0.00	Cobble content	0.00	Hard to reclaim	0.00
		Low content of organic matter	0.01	Slope	0.50	Rock fragments	0.00
		Cobble content	0.08			Slope	0.00
Devada-----	20	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.00	Low strength	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Shrink-swell	0.12	Slope	0.00
				Slope	0.82	Rock fragments	0.28
202: Fivesprings-----	50	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Too clayey	0.00	Slope	0.08	Rock fragments	0.00
		Depth to bedrock	0.05	Shrink-swell	0.12	Too clayey	0.00
						Depth to bedrock	0.05
Sumine-----	35	Fair		Poor		Poor	
		Droughty	0.33	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.84	Slope	0.00	Rock fragments	0.00
				Cobble content	0.87	Depth to bedrock	0.84

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
203: Fluvents-----	70	Fair Water erosion Droughty	0.90 0.94	Not rated		Good	
Riverwash-----	20	Not rated Droughty Low content of organic matter	0.00 0.00	Not rated Depth to saturated zone	0.00	Not rated Hard to reclaim Rock fragments Depth to saturated zone	0.00 0.00 0.00
204: Fordney-----	80	Poor Wind erosion Too sandy	0.00 0.00	Good		Poor Too sandy	0.00
205: Fordney-----	80	Poor Wind erosion Too sandy	0.00 0.00	Good		Poor Too sandy	0.00
206: Fordney-----	80	Poor Wind erosion Too sandy	0.00 0.02	Good		Fair Too sandy	0.02
207: Forgay-----	85	Poor Droughty Low content of organic matter Too acid	0.00 0.88 0.99	Good		Poor Hard to reclaim Rock fragments	0.00 0.00
208: Forgay-----	80	Poor Droughty Low content of organic matter Too acid	0.00 0.88 0.99	Good		Poor Hard to reclaim Rock fragments	0.00 0.00
209: Fortsage-----	90	Fair Low content of organic matter Water erosion	0.88 0.99	Good		Good	
210: Fortsage-----	90	Fair Water erosion Low content of organic matter	0.68 0.88	Good		Good	
211: Fraval-----	40	Poor Low content of organic matter Droughty Depth to bedrock Too acid	0.00 0.00 0.84 0.99	Poor Depth to bedrock Slope Shrink-swell	0.00 0.50 0.94	Not rated Rock fragments Slope Depth to bedrock	0.00 0.00 0.84
Fredonyer-----	25	Poor Droughty Depth to bedrock Stone content Cobble content	0.00 0.35 0.98 0.98	Poor Depth to bedrock Slope Cobble content	0.00 0.50 0.86	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.35

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Said-----	20	Fair Too acid	0.84	Fair Slope Depth to bedrock	0.50 0.95	Poor Hard to reclaim Slope Rock fragments	0.00 0.00 0.28
212: Fraval-----	60	Not rated Low content of organic matter Droughty Depth to bedrock Too acid	0.00 0.00 0.84 0.99	Not rated Depth to bedrock Slope Shrink-swell	0.00 0.82 0.94	Not rated Rock fragments Slope Depth to bedrock	0.00 0.00 0.84
Said-----	30	Fair Too acid	0.84	Fair Slope Depth to bedrock	0.82 0.97	Poor Hard to reclaim Slope Rock fragments	0.00 0.00 0.28
213: Fredonyer-----	45	Poor Droughty Depth to bedrock Stone content Cobble content	0.00 0.35 0.98 0.98	Poor Depth to bedrock Slope Cobble content Stone content	0.00 0.00 0.57 0.99	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.35
Whitinger-----	25	Poor Stone content Droughty Low content of organic matter Depth to bedrock	0.00 0.00 0.12 0.21	Poor Depth to bedrock Slope Stone content Cobble content	0.00 0.00 0.00 0.97	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.21
Orhood-----	15	Poor Stone content Droughty Depth to bedrock Low content of organic matter Cobble content	0.00 0.00 0.00 0.88 0.95	Poor Depth to bedrock Slope Stone content Cobble content	0.00 0.00 0.00 0.60	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.00
214: Fulstone-----	70	Poor Too clayey Droughty Low content of organic matter	0.00 0.00 0.88	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey Rock fragments	0.00 0.72
Wylo-----	20	Poor Droughty Depth to bedrock Stone content	0.00 0.00 0.01	Poor Depth to bedrock Shrink-swell Stone content Slope	0.00 0.12 0.26 0.50	Poor Depth to bedrock Rock fragments Slope	0.00 0.00 0.00
215: Galeppi-----	80	Good		Good		Good	
216: Galeppi-----	80	Good		Fair Slope	0.82	Poor Slope	0.00
217: Galeppi-----	65	Poor Wind erosion Too sandy	0.00 0.00	Good		Poor Too sandy Slope	0.00 0.84

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Glenbrook-----	15	Poor Wind erosion Droughty Depth to bedrock Low content of organic matter Too sandy	0.00 0.00 0.00 0.12 0.31	Poor Depth to bedrock	0.00	Poor Depth to bedrock Rock fragments Too sandy Slope	0.00 0.00 0.31 0.84
218: Gavel-----	85	Poor Droughty Depth to bedrock	0.00 0.23	Poor Depth to bedrock Slope	0.00 0.82	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.23
219: Gavel-----	55	Poor Droughty Depth to bedrock Stone content	0.00 0.29 0.73	Poor Depth to bedrock Slope Stone content Cobble content	0.00 0.00 0.96 0.97	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.29
Devada-----	35	Poor Too clayey Droughty Depth to bedrock	0.00 0.00 0.00	Poor Depth to bedrock Slope Low strength Shrink-swell Cobble content	0.00 0.00 0.00 0.12 0.91	Poor Slope Too clayey Depth to bedrock Rock fragments	0.00 0.00 0.00 0.28
220: Gerlach-----	80	Poor Too clayey Low content of organic matter	0.00 0.88	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey	0.00
221: Gerlach-----	80	Poor Too clayey Low content of organic matter	0.00 0.88	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey	0.00
222: Gerlach-----	45	Poor Too clayey Low content of organic matter	0.00 0.88	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey	0.00
Ravendale-----	40	Poor Too clayey Low content of organic matter	0.00 0.12	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey	0.00
223: Gerle-----	90	Fair Low content of organic matter Too acid	0.88 0.92	Good		Fair Rock fragments Hard to reclaim	0.88 0.95
224: Gerle-----	85	Fair Low content of organic matter Too acid	0.88 0.92	Poor Slope	0.00	Poor Slope Hard to reclaim Rock fragments	0.00 0.88 0.88

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
225: Gerle-----	50	Fair Low content of organic matter Too acid	0.12 0.92	Poor Slope	0.00	Poor Slope Hard to reclaim Rock fragments	0.00 0.12 0.88
Gerle-----	25	Fair Low content of organic matter Too acid	0.88 0.92	Poor Slope	0.00	Poor Slope Hard to reclaim Rock fragments	0.00 0.12 0.88
Gerle-----	15	Fair Low content of organic matter Too acid	0.88 0.92	Poor Slope	0.00	Poor Slope Hard to reclaim Rock fragments	0.00 0.12 0.88
226: Glean-----	90	Fair Droughty	0.08	Fair Depth to bedrock Slope	0.12 0.82	Poor Rock fragments Hard to reclaim Slope	0.00 0.00 0.00
227: Glean-----	85	Fair Droughty	0.08	Poor Slope Depth to bedrock	0.00 0.12	Poor Slope Rock fragments Hard to reclaim	0.00 0.00 0.00
228: Glean-----	55	Fair Droughty Stone content	0.12 0.82	Poor Slope Depth to bedrock Stone content	0.00 0.12 0.68	Poor Slope Rock fragments Hard to reclaim	0.00 0.00 0.00
Searles-----	30	Poor Stone content Droughty Depth to bedrock Cobble content	0.00 0.01 0.46 0.90	Poor Depth to bedrock Slope Stone content Cobble content	0.00 0.00 0.00 0.33	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.46
229: Glenbrook-----	40	Poor Droughty Depth to bedrock Low content of organic matter Too sandy	0.00 0.00 0.12 0.31	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Depth to bedrock Rock fragments Too sandy	0.00 0.00 0.00 0.31
Graufels-----	30	Poor Too sandy Droughty Depth to bedrock Stone content	0.00 0.00 0.03 0.57	Poor Depth to bedrock Slope Stone content	0.00 0.00 0.80	Poor Slope Too sandy Depth to bedrock Rock fragments	0.00 0.00 0.03 0.50
Rock outcrop-----	15	Not rated Low content of organic matter	0.00	Not rated Slope	0.00	Not rated Slope	0.00
230: Graufels-----	50	Poor Too sandy Droughty Depth to bedrock Stone content	0.00 0.00 0.03 0.57	Poor Depth to bedrock Stone content Slope	0.00 0.80 0.82	Poor Too sandy Slope Depth to bedrock Rock fragments	0.00 0.00 0.03 0.50

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Glenbrook-----	35	Poor Too sandy 0.00 Wind erosion 0.00 Droughty 0.00 Depth to bedrock 0.00 Low content of organic matter 0.12		Poor Depth to bedrock 0.00 Slope 0.82		Poor Too sandy 0.00 Depth to bedrock 0.00 Rock fragments 0.00 Slope 0.00	
231: Hagata-----	60	Poor Too clayey 0.00 Depth to bedrock 0.03 Droughty 0.04 Water erosion 0.68 Low content of organic matter 0.88		Poor Depth to bedrock 0.00 Low strength 0.00 Shrink-swell 0.12		Poor Too clayey 0.00 Depth to bedrock 0.03	
Playas-----	30	Poor Droughty 0.00 Low content of organic matter 0.00 Salinity 0.00 Too clayey 0.00 Too alkaline 0.00 Water erosion 0.99		Not rated Shrink-swell 0.12		Not rated Salinity 0.00	
232: Hangtown-----	75	Fair Low content of organic matter 0.18 Droughty 0.28 Too acid 0.95		Poor Slope 0.00 Cobble content 0.91 Depth to bedrock 0.99		Poor Slope 0.00 Hard to reclaim 0.00 Rock fragments 0.00	
233: Hart Camp-----	40	Poor Droughty 0.00 Depth to bedrock 0.00 Stone content 0.98		Poor Depth to bedrock 0.00 Shrink-swell 0.87		Poor Depth to bedrock 0.00 Rock fragments 0.00 Slope 0.37	
Devada-----	30	Poor Too clayey 0.00 Droughty 0.00 Depth to bedrock 0.00 Stone content 0.87		Poor Depth to bedrock 0.00 Low strength 0.00 Shrink-swell 0.12 Stone content 0.99		Poor Too clayey 0.00 Depth to bedrock 0.00 Rock fragments 0.28	
Tunnison-----	15	Poor Too clayey 0.00 Droughty 0.41 Depth to bedrock 0.65 Low content of organic matter 0.88		Poor Depth to bedrock 0.00 Low strength 0.00 Shrink-swell 0.12		Poor Too clayey 0.00 Depth to bedrock 0.65	
234: Hart Camp-----	50	Poor Droughty 0.00 Depth to bedrock 0.00		Poor Depth to bedrock 0.00 Shrink-swell 0.87		Poor Depth to bedrock 0.00 Rock fragments 0.00 Slope 0.37	
Madeline-----	35	Poor Droughty 0.00 Depth to bedrock 0.00 Too clayey 0.00 Stone content 0.21 Low content of organic matter 0.88		Poor Depth to bedrock 0.00 Low strength 0.00 Shrink-swell 0.12 Stone content 0.61		Poor Depth to bedrock 0.00 Rock fragments 0.00 Too clayey 0.00 Slope 0.37	

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
235: Haypress-----	60	Poor Droughty Too sandy Stone content Low content of organic matter Too acid	0.00 0.32 0.58 0.88 0.99	Poor Slope Depth to bedrock Stone content	0.00 0.04 0.45	Poor Slope Rock fragments Too sandy Hard to reclaim	0.00 0.00 0.32 0.50
Tanob-----	20	Poor Droughty Depth to bedrock Low content of organic matter Too acid	0.00 0.21 0.88 0.99	Poor Depth to bedrock Slope	0.00 0.08	Poor Slope Depth to bedrock Rock fragments	0.00 0.21 0.88
236: Herjun-----	85	Poor Wind erosion Sodium content Too alkaline Droughty Salinity Low content of organic matter	0.00 0.00 0.00 0.37 0.50 0.88	Good		Poor Sodium content Salinity	0.00 0.00
237: Herjun-----	80	Poor Sodium content Too alkaline Water erosion Salinity Low content of organic matter	0.00 0.00 0.37 0.50 0.88	Good		Poor Sodium content Salinity	0.00 0.00
238: Highrock, loamy fine sand-----	40	Poor Salinity Sodium content Too alkaline Low content of organic matter Water erosion Droughty	0.00 0.00 0.00 0.12 0.90 0.99	Good		Poor Sodium content Salinity	0.00 0.00
Mazuma-----	25	Poor Wind erosion Sodium content Low content of organic matter Water erosion	0.00 0.00 0.12 0.99	Good		Poor Sodium content Salinity Rock fragments	0.00 0.50 0.97
Wespac-----	20	Poor Sodium content Low content of organic matter Water erosion	0.00 0.88 0.99	Fair Shrink-swell	0.98	Poor Sodium content Salinity	0.00 0.50
239: Highrock, loamy fine sand-----	45	Poor Salinity Sodium content Too alkaline Low content of organic matter Water erosion Droughty	0.00 0.00 0.00 0.12 0.90 0.96	Good		Poor Sodium content Salinity	0.00 0.00

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Wespac, fine sandy loam-----	25	Poor Sodium content Low content of organic matter Salinity Water erosion	0.00 0.12 0.50 0.68	Good		Poor Sodium content Salinity	0.00 0.00
Zorravista, loamy sand-----	20	Poor Too sandy Wind erosion Droughty Low content of organic matter	0.00 0.00 0.10 0.12	Good		Poor Too sandy	0.00
240: Home Camp-----	65	Poor Too clayey Droughty Depth to bedrock Low content of organic matter	0.00 0.32 0.35 0.88	Poor Depth to bedrock Low strength Cobble content Shrink-swell	0.00 0.22 0.98 0.99	Poor Too clayey Rock fragments Depth to bedrock Slope	0.00 0.00 0.35 0.84
Newlands-----	20	Fair Low content of organic matter Too clayey	0.88 0.98	Fair Depth to bedrock Slope Shrink-swell	0.07 0.50 0.87	Poor Slope Rock fragments Too clayey	0.00 0.12 0.70
241: Honlak-----	80	Poor Salinity Sodium content Low content of organic matter Water erosion	0.00 0.00 0.88 0.99	Fair Depth to saturated zone	0.76	Poor Sodium content Salinity Depth to saturated zone	0.00 0.00 0.76
242: Horsecamp-----	85	Poor Too clayey Low content of organic matter	0.00 0.12	Poor Low strength Shrink-swell Depth to bedrock	0.00 0.12 0.23	Poor Too clayey	0.00
243: Horsecamp-----	45	Poor Too clayey Low content of organic matter	0.00 0.12	Poor Low strength Shrink-swell Depth to bedrock	0.00 0.12 0.23	Poor Too clayey	0.00
Brubeck-----	40	Poor Too clayey Droughty Depth to bedrock Low content of organic matter	0.00 0.65 0.71 0.88	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock	0.00 0.71
244: Horsecamp-----	45	Poor Too clayey Low content of organic matter	0.00 0.12	Poor Low strength Shrink-swell Depth to bedrock	0.00 0.28 0.58	Poor Too clayey	0.00

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Hunnton-----	40	Poor Too clayey Droughty Low content of organic matter	0.00 0.00 0.18	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey Rock fragments	0.00 0.12
245: Horsecamp, cobbly clay-----	55	Poor Too clayey Low content of organic matter Droughty	0.00 0.12 0.99	Poor Low strength Depth to bedrock Shrink-swell	0.00 0.04 0.12	Poor Too clayey	0.00
Mahala-----	35	Poor Too clayey Low content of organic matter Droughty Depth to bedrock	0.00 0.12 0.90 0.93	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock Rock fragments	0.00 0.93 0.97
246: Humboldt-----	80	Poor Too clayey	0.00	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey	0.00
247: Humboldt-----	80	Poor Too clayey	0.00	Poor Low strength Depth to saturated zone Shrink-swell	0.00 0.76 0.87	Poor Too clayey Depth to saturated zone	0.00 0.76
248: Humboldt-----	85	Poor Too clayey	0.00	Poor Low strength Depth to saturated zone Shrink-swell	0.00 0.76 0.87	Poor Too clayey Depth to saturated zone	0.00 0.76
249: Humboldt-----	85	Poor Sodium content Too alkaline Salinity Low content of organic matter Too clayey Water erosion	0.00 0.00 0.00 0.12 0.50 0.99	Poor Low strength Depth to saturated zone Shrink-swell	0.00 0.04 0.87	Poor Sodium content Salinity Depth to saturated zone Too clayey	0.00 0.00 0.04 0.47
250: Hunnton-----	55	Poor Too clayey Droughty Depth to cemented pan Low content of organic matter	0.00 0.00 0.03 0.18	Poor Depth to cemented pan Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to cemented pan Rock fragments	0.00 0.03 0.12
Shinnpeak-----	30	Poor Droughty Depth to cemented pan	0.00 0.00	Poor Depth to cemented pan Shrink-swell	0.00 0.87	Poor Rock fragments Depth to cemented pan	0.00 0.00

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
251: Incy-----	90	Poor Too sandy Wind erosion Droughty Low content of organic matter	0.00 0.00 0.09 0.12	Good		Poor Too sandy	0.00
252: Incy-----	85	Poor Too sandy Wind erosion Droughty Low content of organic matter	0.00 0.00 0.09 0.12	Fair Slope	0.82	Poor Too sandy Slope	0.00 0.00
253: Indiano-----	55	Fair Low content of organic matter Depth to bedrock	0.88 0.99	Poor Depth to bedrock Slope Low strength Shrink-swell	0.00 0.08 0.78 0.87	Poor Slope Rock fragments Depth to bedrock	0.00 0.03 0.99
Graufels-----	30	Poor Droughty Depth to bedrock Too sandy	0.00 0.03 0.04	Poor Depth to bedrock Slope	0.00 0.08	Poor Slope Rock fragments Depth to bedrock Too sandy	0.00 0.00 0.03 0.04
254: Indiano-----	45	Fair Droughty Depth to bedrock Low content of organic matter Too clayey	0.15 0.29 0.88 0.98	Poor Depth to bedrock Low strength Slope Shrink-swell	0.00 0.22 0.82 0.91	Poor Slope Rock fragments Depth to bedrock Too clayey	0.00 0.24 0.29 0.70
Searles-----	35	Poor Stone content Droughty Depth to bedrock Cobble content	0.00 0.01 0.46 0.90	Poor Depth to bedrock Stone content Cobble content Slope	0.00 0.00 0.33 0.82	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.46
255: Indiano-----	55	Fair Droughty Depth to bedrock Low content of organic matter Too clayey	0.18 0.29 0.88 0.98	Poor Depth to bedrock Slope Low strength Shrink-swell Cobble content	0.00 0.00 0.22 0.87 0.99	Poor Slope Rock fragments Depth to bedrock Too clayey	0.00 0.24 0.29 0.70
Searles-----	35	Poor Stone content Droughty Depth to bedrock Cobble content	0.00 0.01 0.58 0.94	Poor Depth to bedrock Slope Stone content Cobble content	0.00 0.00 0.00 0.33	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.58
256: Indiano-----	45	Fair Depth to bedrock Droughty Low content of organic matter	0.29 0.57 0.88	Poor Depth to bedrock Slope Low strength Shrink-swell	0.00 0.00 0.78 0.87	Poor Slope Rock fragments Depth to bedrock	0.00 0.03 0.29

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Zephan-----	30	Fair Droughty Too clayey Low content of organic matter	0.01 0.02 0.32	Poor Slope Depth to bedrock Cobble content Shrink-swell	0.00 0.04 0.85 0.97	Poor Slope Rock fragments Too clayey	0.00 0.00 0.01
Duco-----	15	Poor Droughty Depth to bedrock	0.00 0.00	Poor Depth to bedrock Slope Shrink-swell	0.00 0.00 0.87	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.00
257: Inville-----	85	Fair Low content of organic matter Droughty Too acid	0.12 0.40 0.99	Fair Cobble content	0.55	Poor Hard to reclaim Rock fragments	0.00 0.00
258: Jauriga-----	85	Good		Fair Depth to bedrock Shrink-swell	0.46 0.87	Poor Rock fragments Hard to reclaim	0.00 0.68
259: Jauriga-----	40	Good		Fair Depth to bedrock Shrink-swell	0.46 0.87	Poor Rock fragments Hard to reclaim Slope	0.00 0.68 0.84
Buckbay-----	25	Fair Droughty Depth to bedrock	0.07 0.46	Poor Depth to bedrock Shrink-swell	0.00 0.92	Poor Rock fragments Depth to bedrock Slope	0.00 0.46 0.84
Fredonyer-----	20	Poor Droughty Depth to bedrock Stone content Cobble content	0.00 0.35 0.98 0.98	Poor Depth to bedrock Slope Cobble content	0.00 0.08 0.86	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.35
260: Keddie-----	95	Good		Poor Depth to saturated zone	0.00	Poor Depth to saturated zone Rock fragments	0.00 0.97
261: Keddie-----	85	Good		Fair Depth to saturated zone Shrink-swell	0.91 0.98	Fair Depth to saturated zone	0.91
262: Ladd-----	85	Fair Low content of organic matter	0.12	Fair Shrink-swell	0.99	Good	
263: Ladd-----	70	Fair Low content of organic matter	0.12	Fair Shrink-swell	0.99	Good	

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Bieber-----	20	Poor Droughty Depth to cemented pan Too clayey Low content of organic matter	0.00 0.00 0.00 0.12	Poor Depth to cemented pan Low strength Shrink-swell	0.00 0.00 0.12	Poor Depth to cemented pan Too clayey Rock fragments	0.00 0.00 0.88
264: Lakeview-----	85	Good		Fair Shrink-swell	0.94	Good	
265: Lakeview-----	85	Good		Fair Shrink-swell	0.94	Good	
266: Lasco-----	90	Fair Droughty Low content of organic matter Too acid	0.48 0.88 0.99	Fair Depth to bedrock	0.46	Poor Rock fragments Hard to reclaim Slope	0.00 0.50 0.96
267: Lasco-----	95	Fair Droughty Low content of organic matter Too acid	0.48 0.88 0.99	Poor Slope Depth to bedrock	0.00 0.46	Poor Slope Rock fragments Hard to reclaim	0.00 0.00 0.50
268: Lasco-----	90	Fair Droughty Low content of organic matter Too acid	0.59 0.88 0.99	Fair Slope Depth to bedrock	0.08 0.46	Poor Slope Rock fragments Hard to reclaim	0.00 0.00 0.50
269: Lasco-----	65	Fair Droughty Low content of organic matter Too acid	0.80 0.88 0.99	Fair Slope Depth to bedrock	0.08 0.46	Poor Slope Rock fragments	0.00 0.88
Bonta-----	25	Fair Droughty Low content of organic matter Depth to bedrock Too acid	0.17 0.88 0.93 0.99	Poor Depth to bedrock Slope	0.00 0.08	Poor Slope Rock fragments Depth to bedrock	0.00 0.88 0.93
270: Lieberman-----	85	Poor Too sandy Low content of organic matter Sodium content Salinity Carbonate content Droughty Water erosion	0.00 0.12 0.22 0.88 0.92 0.97 0.99	Good		Poor Too sandy Sodium content Salinity	0.00 0.00 0.00

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
271: Lieberman-----	50	Poor Too sandy Low content of organic matter Sodium content Salinity Carbonate content Droughty Water erosion	 0.00 0.12 0.22 0.88 0.92 0.97 0.99	Good		Poor Too sandy Sodium content Salinity	 0.00 0.00 0.00
Herlong-----	35	Poor Droughty Sodium content Depth to bedrock Too alkaline Low content of organic matter Salinity Water erosion	 0.00 0.00 0.00 0.00 0.12 0.72 0.99	Poor Depth to bedrock	0.00	Poor Sodium content Depth to bedrock Rock fragments	 0.00 0.00 0.88
272: Lodico-----	85	Poor Too clayey Droughty Depth to bedrock Low content of organic matter	 0.00 0.00 0.05 0.88	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock Rock fragments	 0.00 0.05 0.24
273: Longcreek-----	35	Poor Too clayey Droughty Depth to bedrock Cobble content Low content of organic matter	 0.00 0.00 0.00 0.46 0.88	Poor Depth to bedrock Low strength Slope Cobble content Shrink-swell	0.00 0.00 0.50 0.54 0.87	Poor Too clayey Rock fragments Depth to bedrock Slope	 0.00 0.00 0.00 0.00
Devada-----	30	Poor Too clayey Droughty Depth to bedrock	 0.00 0.00 0.00	Poor Depth to bedrock Low strength Shrink-swell Slope	0.00 0.00 0.12 0.50	Poor Too clayey Depth to bedrock Slope Rock fragments	 0.00 0.00 0.00 0.28
Rubble land-----	20	Not rated Stone content Droughty Low content of organic matter Cobble content	 0.00 0.00 0.01 0.08	Not rated Stone content Cobble content Slope	 0.00 0.00 0.08	Not rated Slope Hard to reclaim Hard to reclaim Rock fragments	 0.00 0.00 0.00 0.00
274: Longcreek-----	35	Poor Too clayey Droughty Depth to bedrock Cobble content Low content of organic matter	 0.00 0.00 0.00 0.46 0.88	Poor Depth to bedrock Slope Low strength Cobble content Shrink-swell	0.00 0.00 0.00 0.54 0.87	Poor Slope Too clayey Rock fragments Depth to bedrock	 0.00 0.00 0.00 0.00
Devada-----	30	Poor Too clayey Droughty Depth to bedrock	 0.00 0.00 0.00	Poor Depth to bedrock Slope Low strength Shrink-swell	0.00 0.00 0.00 0.12	Poor Slope Too clayey Depth to bedrock Rock fragments	 0.00 0.00 0.00 0.28

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Rubble land-----	20	Not rated		Not rated		Not rated	
		Stone content	0.00	Slope	0.00	Slope	0.00
		Droughty	0.00	Stone content	0.00	Hard to reclaim	0.00
		Low content of organic matter	0.01	Cobble content	0.00	Hard to reclaim	0.00
		Cobble content	0.08			Rock fragments	0.00
275: Loomis-----	85	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.00	Cobble content	0.71	Rock fragments	0.00
		Depth to bedrock	0.00	Slope	0.82	Depth to bedrock	0.00
		Low content of organic matter	0.88	Shrink-swell	0.87	Slope	0.00
		Cobble content	0.90				
276: Loomis-----	55	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.00	Cobble content	0.71	Rock fragments	0.00
		Depth to bedrock	0.00	Shrink-swell	0.87	Depth to bedrock	0.00
		Low content of organic matter	0.88				
		Cobble content	0.90				
Fivesprings-----	30	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Rock fragments	0.00
		Too clayey	0.00	Shrink-swell	0.12	Too clayey	0.00
		Depth to bedrock	0.05	Slope	0.50	Slope	0.00
						Depth to bedrock	0.05
277: Loomis-----	65	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.00	Cobble content	0.71	Rock fragments	0.00
		Depth to bedrock	0.00	Slope	0.82	Depth to bedrock	0.00
		Low content of organic matter	0.88	Shrink-swell	0.87	Slope	0.00
		Cobble content	0.90				
Rubble land-----	20	Not rated		Not rated		Not rated	
		Stone content	0.00	Stone content	0.00	Slope	0.00
		Droughty	0.00	Cobble content	0.00	Hard to reclaim	0.00
		Low content of organic matter	0.01	Slope	0.08	Hard to reclaim	0.00
		Cobble content	0.08			Rock fragments	0.00
278: Madeline-----	35	Poor		Poor		Poor	
		Droughty	0.00	Depth to bedrock	0.00	Slope	0.00
		Depth to bedrock	0.00	Low strength	0.00	Depth to bedrock	0.00
		Too clayey	0.00	Slope	0.08	Rock fragments	0.00
		Low content of organic matter	0.88	Shrink-swell	0.12	Too clayey	0.00
		Stone content	0.96				
Glean-----	30	Fair		Poor		Poor	
		Droughty	0.08	Slope	0.00	Slope	0.00
				Depth to bedrock	0.12	Rock fragments	0.00
						Hard to reclaim	0.00
Devada-----	20	Poor		Poor		Poor	
		Too clayey	0.00	Depth to bedrock	0.00	Too clayey	0.00
		Droughty	0.00	Low strength	0.00	Depth to bedrock	0.00
		Depth to bedrock	0.00	Shrink-swell	0.12	Slope	0.00
				Slope	0.50	Rock fragments	0.28
				Cobble content	0.91		

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
279: Madeline-----	45	Poor Droughty Depth to bedrock Too clayey Stone content Low content of organic matter	0.00 0.00 0.00 0.31 0.88	Poor Depth to bedrock Low strength Shrink-swell Slope Stone content	0.00 0.00 0.12 0.50 0.69	Poor Depth to bedrock Rock fragments Too clayey Slope	0.00 0.00 0.00 0.00
Sumine-----	40	Poor Droughty Depth to bedrock Cobble content	0.00 0.10 0.96	Poor Depth to bedrock Cobble content	0.00 0.56	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.10
280: Massack-----	95	Fair Water erosion	0.99	Fair Depth to saturated zone	0.29	Fair Depth to saturated zone	0.29
281: Mazuma-----	80	Poor Wind erosion Sodium content Low content of organic matter Water erosion	0.00 0.00 0.12 0.99	Good		Poor Sodium content Salinity Rock fragments	0.00 0.50 0.97
282: Mazuma-----	85	Poor Sodium content Too alkaline Salinity Low content of organic matter Water erosion Droughty	0.00 0.00 0.00 0.12 0.90 0.99	Good		Poor Sodium content Salinity	0.00 0.00
283: McConnel-----	60	Poor Salinity Droughty Low content of organic matter Sodium content	0.00 0.04 0.12 0.78	Good		Poor Hard to reclaim Rock fragments Salinity Sodium content	0.00 0.00 0.00 0.78
Mottsville-----	25	Poor Wind erosion Too sandy Low content of organic matter Droughty	0.00 0.06 0.32 0.35	Good		Fair Too sandy Rock fragments	0.06 0.12
284: McDermott-----	85	Poor Sodium content Too alkaline Low content of organic matter Water erosion Too clayey	0.00 0.00 0.88 0.90 0.98	Poor Low strength Shrink-swell	0.00 0.90	Poor Sodium content Too clayey	0.00 0.70
285: Modoc-----	70	Fair Droughty Depth to cemented pan	0.23 0.36	Poor Depth to cemented pan Shrink-swell	0.00 0.99	Fair Depth to cemented pan Rock fragments	0.36 0.97

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Truax-----	20	Fair Droughty	0.97	Good		Fair Hard to reclaim Rock fragments	0.95 0.95
286: Mottsville-----	85	Poor Wind erosion Too sandy Low content of organic matter Droughty	0.00 0.06 0.32 0.35	Good		Fair Too sandy Rock fragments	0.06 0.12
287: Mottsville-----	85	Poor Wind erosion Too sandy Low content of organic matter Droughty	0.00 0.06 0.32 0.35	Good		Fair Too sandy Rock fragments	0.06 0.12
288: Mottsville-----	80	Poor Wind erosion Too sandy Low content of organic matter Droughty	0.00 0.06 0.32 0.35	Good		Fair Too sandy Rock fragments	0.06 0.12
289: Mottsville-----	80	Poor Wind erosion Too sandy Low content of organic matter Droughty	0.00 0.06 0.32 0.35	Good		Fair Too sandy Rock fragments	0.06 0.12
290: Mottsville-----	85	Poor Wind erosion Too sandy Low content of organic matter Droughty	0.00 0.06 0.32 0.35	Good		Fair Too sandy Rock fragments Slope	0.06 0.12 0.37
291: Mottsville-----	90	Poor Wind erosion Too sandy Low content of organic matter Droughty	0.00 0.06 0.32 0.35	Fair Slope	0.08	Poor Slope Too sandy Rock fragments	0.00 0.06 0.12
292: Mottsville-----	60	Poor Wind erosion Too sandy Low content of organic matter Droughty	0.00 0.06 0.32 0.35	Poor Slope	0.00	Poor Slope Too sandy Rock fragments	0.00 0.06 0.12
Galeppi-----	30	Good		Poor Slope	0.00	Poor Slope	0.00

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
293: Mountmed-----	85	Poor Too clayey	0.00	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.49	Poor Depth to saturated zone Too clayey Hard to reclaim	0.00 0.00 0.18
294: Mountmed-----	85	Poor Too clayey	0.00	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.49	Poor Depth to saturated zone Too clayey Hard to reclaim	0.00 0.00 0.18
295: Mountmed-----	90	Poor Too clayey Low content of organic matter	0.00 0.88	Fair Shrink-swell	0.95	Poor Hard to reclaim Too clayey	0.00 0.00
296: Newlands-----	50	Fair Low content of organic matter Too clayey	0.88 0.98	Fair Depth to bedrock Slope Shrink-swell	0.07 0.82 0.87	Poor Slope Rock fragments Too clayey	0.00 0.12 0.70
Hapgood-----	40	Fair Droughty	0.14	Fair Depth to bedrock Slope	0.01 0.82	Poor Rock fragments Hard to reclaim Slope	0.00 0.00 0.00
297: Ninemile-----	45	Poor Too clayey Droughty Depth to bedrock	0.00 0.00 0.00	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock Rock fragments	0.00 0.00 0.95
Home Camp-----	25	Poor Too clayey Droughty Depth to bedrock Low content of organic matter	0.00 0.32 0.35 0.88	Poor Depth to bedrock Low strength Cobble content Shrink-swell	0.00 0.22 0.98 0.99	Poor Too clayey Rock fragments Slope Depth to bedrock	0.00 0.00 0.00 0.35
Newlands-----	20	Fair Low content of organic matter Too clayey	0.88 0.98	Fair Depth to bedrock Shrink-swell	0.07 0.87	Poor Slope Rock fragments Too clayey	0.00 0.12 0.70
298: Ninemile-----	30	Poor Too clayey Droughty Depth to bedrock	0.00 0.00 0.00	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock Rock fragments	0.00 0.00 0.95
Petescreek-----	30	Poor Droughty Depth to bedrock	0.00 0.29	Poor Depth to bedrock	0.00	Fair Rock fragments Depth to bedrock Slope	0.03 0.29 0.84

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Fiddler-----	25	Poor Stone content Droughty Too clayey Depth to bedrock Cobble content Low content of organic matter	0.00 0.00 0.00 0.05 0.15 0.88	Poor Depth to bedrock Low strength Stone content Cobble content Slope Shrink-swell	0.00 0.00 0.00 0.00 0.50 0.87	Poor Slope Rock fragments Too clayey Depth to bedrock	0.00 0.00 0.00 0.05
299: Ninemile-----	50	Poor Too clayey Droughty Depth to bedrock	0.00 0.00 0.00	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock Rock fragments	0.00 0.00 0.95
Weste-----	35	Poor Droughty Depth to bedrock Too acid	0.00 0.10 0.99	Poor Depth to bedrock	0.00	Poor Rock fragments Depth to bedrock	0.00 0.10
300: Observation-----	35	Poor Too clayey Droughty Low content of organic matter Depth to bedrock	0.00 0.75 0.88 0.90	Poor Depth to bedrock Low strength Shrink-swell Slope	0.00 0.00 0.34 0.50	Poor Rock fragments Too clayey Slope Depth to bedrock	0.00 0.00 0.00 0.90
Searles-----	30	Poor Stone content Droughty Depth to bedrock Cobble content	0.00 0.01 0.46 0.90	Poor Depth to bedrock Stone content Cobble content Slope	0.00 0.00 0.33 0.50	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.46
Madeline-----	20	Poor Droughty Depth to bedrock Too clayey Stone content Low content of organic matter	0.00 0.00 0.00 0.31 0.88	Poor Depth to bedrock Low strength Shrink-swell Slope Stone content	0.00 0.00 0.12 0.50 0.69	Poor Depth to bedrock Rock fragments Too clayey Slope	0.00 0.00 0.00 0.00
301: Observation-----	35	Poor Too clayey Droughty Low content of organic matter Depth to bedrock	0.00 0.75 0.88 0.90	Poor Depth to bedrock Slope Low strength Shrink-swell	0.00 0.00 0.00 0.34	Poor Slope Rock fragments Too clayey Depth to bedrock	0.00 0.00 0.00 0.90
Searles-----	30	Poor Stone content Droughty Depth to bedrock Cobble content	0.00 0.01 0.46 0.90	Poor Depth to bedrock Slope Stone content Cobble content	0.00 0.00 0.00 0.33	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.46
Madeline-----	20	Poor Droughty Depth to bedrock Too clayey Stone content Low content of organic matter	0.00 0.00 0.00 0.31 0.88	Poor Depth to bedrock Slope Low strength Shrink-swell Stone content	0.00 0.00 0.00 0.12 0.69	Poor Slope Depth to bedrock Rock fragments Too clayey	0.00 0.00 0.00 0.00

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
302: Orhood-----	80	Poor Stone content Droughty Depth to bedrock Low content of organic matter Cobble content	0.00 0.00 0.00 0.88 0.98	Poor Depth to bedrock Stone content Cobble content	0.00 0.00 0.70	Poor Rock fragments Depth to bedrock Slope	0.00 0.00 0.84
303: Orr-----	85	Fair Low content of organic matter	0.88	Good		Fair Rock fragments	0.28
304: Outland-----	75	Poor Droughty Cobble content Depth to bedrock Too acid	0.00 0.82 0.93 0.99	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.15	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.93
305: Outland-----	60	Poor Droughty Depth to bedrock Too acid	0.00 0.93 0.99	Poor Depth to bedrock Cobble content	0.00 0.99	Poor Rock fragments Slope Depth to bedrock	0.00 0.84 0.93
Outland-----	30	Poor Droughty Cobble content Depth to bedrock Too acid	0.00 0.82 0.93 0.99	Poor Depth to bedrock Cobble content Slope	0.00 0.15 0.50	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.93
306: Outland-----	60	Poor Droughty Cobble content Depth to bedrock Too acid	0.00 0.82 0.93 0.99	Poor Depth to bedrock Slope Cobble content	0.00 0.08 0.15	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.93
Penstock-----	25	Fair Too acid	0.95	Fair Slope	0.08	Poor Slope Hard to reclaim Rock fragments	0.00 0.00 0.00
307: Outland-----	60	Poor Droughty Cobble content Depth to bedrock Too acid	0.00 0.82 0.93 0.99	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.15	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.93
Penstock-----	25	Fair Too acid	0.95	Poor Slope	0.00	Poor Slope Hard to reclaim Rock fragments	0.00 0.00 0.00
308: Papeek-----	85	Poor Too clayey Droughty Depth to bedrock Low content of organic matter	0.00 0.75 0.77 0.88	Poor Depth to bedrock Low strength Shrink-swell Slope	0.00 0.00 0.39 0.50	Poor Too clayey Slope Rock fragments Depth to bedrock	0.00 0.00 0.72 0.77

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
309: Papeek-----	95	Poor Too clayey Droughty Depth to bedrock Low content of organic matter	0.00 0.75 0.77 0.88	Poor Depth to bedrock Slope Low strength Shrink-swell	0.00 0.00 0.00 0.39	Poor Slope Too clayey Rock fragments Depth to bedrock	0.00 0.00 0.72 0.77
310: Penstock-----	65	Fair Too acid	0.92	Fair Slope	0.50	Poor Hard to reclaim Rock fragments Slope	0.00 0.00 0.00
Deadwood-----	25	Poor Droughty Depth to bedrock	0.00 0.00	Poor Depth to bedrock Slope	0.00 0.50	Poor Rock fragments Depth to bedrock Slope	0.00 0.00 0.00
311: Penstock-----	50	Fair Too acid Cobble content	0.95 0.99	Poor Slope Cobble content	0.00 0.60	Poor Slope Hard to reclaim Rock fragments	0.00 0.00 0.00
Deadwood-----	20	Poor Droughty Depth to bedrock	0.00 0.00	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.00
Rock outcrop-----	15	Not rated Low content of organic matter	0.00	Not rated Slope	0.00	Not rated Slope	0.00
312: Penstock-----	50	Fair Too acid	0.95	Fair Slope	0.82	Poor Hard to reclaim Rock fragments Slope	0.00 0.00 0.00
Scaribou, stony loam	40	Fair Droughty Cobble content Too acid	0.83 0.94 0.99	Fair Cobble content Slope Shrink-swell	0.18 0.82 0.94	Poor Rock fragments Hard to reclaim Slope	0.00 0.00 0.00
313: Penstock-----	45	Fair Too acid	0.95	Poor Slope	0.00	Poor Slope Hard to reclaim Rock fragments	0.00 0.00 0.00
Scaribou, stony loam	40	Fair Droughty Cobble content Too acid	0.83 0.94 0.99	Poor Slope Cobble content Shrink-swell	0.00 0.18 0.94	Poor Slope Rock fragments Hard to reclaim	0.00 0.00 0.00
314: Pequop, very cobbly loam-----	55	Fair Droughty Low content of organic matter	0.80 0.88	Fair Slope Depth to bedrock Cobble content	0.08 0.58 0.91	Poor Slope Rock fragments Hard to reclaim	0.00 0.00 0.00

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Observation-----	30	Poor Too clayey Droughty Low content of organic matter Depth to bedrock	0.00 0.75 0.88 0.90	Poor Depth to bedrock Low strength Slope Shrink-swell	0.00 0.00 0.08 0.34	Poor Slope Rock fragments Too clayey Depth to bedrock	0.00 0.00 0.00 0.90
315: Peguop-----	55	Fair Droughty Low content of organic matter	0.80 0.88	Poor Slope Depth to bedrock Cobble content	0.00 0.58 0.91	Poor Slope Rock fragments Hard to reclaim	0.00 0.00 0.00
Observation-----	30	Poor Too clayey Droughty Low content of organic matter Depth to bedrock	0.00 0.75 0.88 0.90	Poor Depth to bedrock Slope Low strength Shrink-swell	0.00 0.00 0.00 0.34	Poor Slope Rock fragments Too clayey Depth to bedrock	0.00 0.00 0.00 0.90
316: Petescreek-----	40	Poor Droughty Depth to bedrock	0.00 0.29	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.03 0.29
Bucklake-----	25	Poor Droughty Too clayey Depth to bedrock Low content of organic matter	0.00 0.00 0.10 0.88	Poor Depth to bedrock Slope Low strength Shrink-swell	0.00 0.00 0.00 0.20	Poor Slope Rock fragments Too clayey Depth to bedrock	0.00 0.00 0.00 0.10
Devada-----	20	Poor Too clayey Droughty Depth to bedrock	0.00 0.00 0.00	Poor Depth to bedrock Low strength Shrink-swell Slope Cobble content	0.00 0.00 0.12 0.50 0.91	Poor Slope Too clayey Depth to bedrock Rock fragments	0.00 0.00 0.00 0.28
317: Petescreek-----	40	Poor Droughty Depth to bedrock	0.00 0.29	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.03 0.29
Devada-----	25	Poor Too clayey Droughty Depth to bedrock	0.00 0.00 0.00	Poor Depth to bedrock Low strength Shrink-swell Slope Cobble content	0.00 0.00 0.12 0.50 0.91	Poor Slope Too clayey Depth to bedrock Rock fragments	0.00 0.00 0.00 0.28
Searles-----	20	Poor Stone content Droughty Depth to bedrock Cobble content	0.00 0.01 0.46 0.90	Poor Depth to bedrock Slope Stone content Cobble content	0.00 0.00 0.00 0.33	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.46
318: Petescreek-----	45	Poor Droughty Depth to bedrock	0.00 0.29	Poor Depth to bedrock Slope	0.00 0.50	Poor Slope Rock fragments Depth to bedrock	0.00 0.03 0.29

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Devada-----	20	Poor Too clayey Droughty Depth to bedrock	0.00 0.00 0.00	Poor Depth to bedrock Low strength Shrink-swell Slope Cobble content	0.00 0.00 0.12 0.50 0.91	Poor Too clayey Depth to bedrock Slope Rock fragments	0.00 0.00 0.00 0.28
Searles-----	20	Poor Stone content Droughty Depth to bedrock Cobble content	0.00 0.01 0.46 0.90	Poor Depth to bedrock Stone content Cobble content Slope	0.00 0.00 0.33 0.50	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.46
319: Petescreek-----	60	Poor Droughty Depth to bedrock	0.00 0.29	Poor Depth to bedrock Slope	0.00 0.50	Poor Slope Rock fragments Depth to bedrock	0.00 0.03 0.29
Fredonyer-----	25	Poor Droughty Depth to bedrock Stone content Cobble content	0.00 0.35 0.98 0.98	Poor Depth to bedrock Cobble content Stone content	0.00 0.57 0.99	Poor Rock fragments Depth to bedrock	0.00 0.35
320: Petescreek-----	60	Poor Droughty Depth to bedrock	0.00 0.29	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.03 0.29
Fredonyer-----	25	Poor Droughty Depth to bedrock Stone content Cobble content	0.00 0.35 0.98 0.98	Poor Depth to bedrock Slope Cobble content Stone content	0.00 0.00 0.57 0.99	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.35
321: Petescreek-----	35	Poor Droughty Depth to bedrock Stone content	0.00 0.29 0.99	Poor Depth to bedrock Slope	0.00 0.50	Poor Slope Rock fragments Depth to bedrock	0.00 0.03 0.29
Orhood-----	25	Poor Stone content Droughty Depth to bedrock Low content of organic matter Cobble content	0.00 0.00 0.00 0.88 0.95	Poor Depth to bedrock Stone content Slope Cobble content	0.00 0.00 0.50 0.60	Poor Rock fragments Depth to bedrock Slope	0.00 0.00 0.00
Fredonyer-----	20	Poor Droughty Depth to bedrock Cobble content	0.00 0.35 0.95	Poor Depth to bedrock Slope Cobble content	0.00 0.50 0.80	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.35
322: Petescreek-----	50	Poor Droughty Depth to bedrock	0.00 0.29	Poor Depth to bedrock Slope	0.00 0.50	Poor Slope Rock fragments Depth to bedrock	0.00 0.03 0.29
Searles-----	30	Fair Droughty Cobble content Stone content	0.22 0.50 0.88	Poor Cobble content Depth to bedrock Slope Stone content	0.00 0.00 0.50 0.87	Poor Hard to reclaim Rock fragments Slope	0.00 0.00 0.00

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
323: Petescreek-----	45	Poor Droughty Depth to bedrock	0.00 0.29	Poor Depth to bedrock Slope	0.00 0.50	Poor Slope Rock fragments Depth to bedrock	0.00 0.03 0.29
Searles-----	25	Poor Stone content Droughty Depth to bedrock Cobble content	0.00 0.01 0.46 0.90	Poor Depth to bedrock Stone content Cobble content Slope	0.00 0.00 0.33 0.50	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.46
Orhood-----	20	Poor Stone content Droughty Depth to bedrock Low content of organic matter Cobble content	0.00 0.00 0.00 0.88 0.95	Poor Depth to bedrock Stone content Slope Cobble content	0.00 0.00 0.50 0.60	Poor Rock fragments Depth to bedrock Slope	0.00 0.00 0.00
324: Pit-----	80	Poor Too clayey Sodium content Water erosion	0.00 0.00 0.99	Poor Low strength Shrink-swell	0.00 0.45	Poor Too clayey Sodium content	0.00 0.00
325: Pits-----	50	Not rated Low content of organic matter	0.00	Not rated		Not rated	
Dumps-----	40	Not rated Low content of organic matter	0.00	Not rated		Not rated	
326: Playas, silty clay--	90	Poor Droughty Low content of organic matter Salinity Too clayey Too alkaline Water erosion	0.00 0.00 0.00 0.00 0.00 0.99	Not rated Shrink-swell	0.12	Not rated Salinity	0.00
327: Plinco, gravelly sandy loam-----	85	Fair Low content of organic matter	0.88	Good		Poor Rock fragments Hard to reclaim	0.00 0.82
328: Plinco-----	90	Fair Low content of organic matter	0.88	Good		Poor Rock fragments Hard to reclaim	0.00 0.82
329: Puls-----	85	Poor Too clayey Droughty Depth to cemented pan Depth to bedrock Low content of organic matter	0.00 0.00 0.00 0.65 0.88	Poor Depth to bedrock Depth to cemented pan Low strength Shrink-swell	0.00 0.00 0.00 0.12	Poor Too clayey Depth to cemented pan Depth to bedrock	0.00 0.00 0.65

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
330: Puls-----	55	Poor Too clayey Droughty Depth to cemented pan Depth to bedrock Low content of organic matter Stone content	 0.00 0.00 0.00 0.65 0.88 0.98	Poor Depth to bedrock Depth to cemented pan Low strength Shrink-swell	 0.00 0.00 0.00 0.12	Poor Too clayey Depth to cemented pan Depth to bedrock	 0.00 0.00 0.65
Ninekar-----	30	Poor Too clayey Droughty Depth to bedrock Low content of organic matter Water erosion	 0.00 0.24 0.35 0.88 0.99	Poor Depth to bedrock Low strength Shrink-swell	 0.00 0.00 0.12	Poor Too clayey Depth to bedrock Rock fragments	 0.00 0.35 0.88
331: Puls-----	50	Poor Too clayey Droughty Depth to cemented pan Depth to bedrock Low content of organic matter Stone content	 0.00 0.00 0.00 0.65 0.88 0.98	Poor Depth to bedrock Depth to cemented pan Low strength Shrink-swell	 0.00 0.00 0.00 0.12	Poor Too clayey Depth to cemented pan Depth to bedrock	 0.00 0.00 0.65
Tunnison-----	35	Poor Too clayey Droughty Depth to bedrock Low content of organic matter	 0.00 0.41 0.65 0.88	Poor Depth to bedrock Low strength Shrink-swell	 0.00 0.00 0.12	Poor Too clayey Depth to bedrock	 0.00 0.65
332: Quartzburg-----	60	Poor Droughty Too sandy Low content of organic matter Depth to bedrock Too acid	 0.00 0.01 0.12 0.21 0.99	Poor Depth to bedrock Slope	 0.00 0.00	Poor Slope Rock fragments Too sandy Depth to bedrock	 0.00 0.00 0.01 0.21
Scaribou-----	30	Fair Low content of organic matter Droughty Too acid	 0.88 0.91 0.99	Poor Slope Shrink-swell	 0.00 0.89	Poor Slope Hard to reclaim Rock fragments	 0.00 0.00 0.00
333: Ravendale-----	80	Poor Too clayey Low content of organic matter	 0.00 0.12	Poor Low strength Shrink-swell	 0.00 0.12	Poor Too clayey	 0.00
334: Ravendale-----	85	Poor Too clayey Low content of organic matter	 0.00 0.12	Poor Low strength Shrink-swell	 0.00 0.12	Poor Too clayey	 0.00

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
335: Ravendale-----	85	Poor Too clayey Low content of organic matter	0.00 0.12	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to saturated zone	0.00 0.00
336: Ravendale-----	85	Poor Too clayey Low content of organic matter	0.00 0.88	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey	0.00
337: Redriver-----	45	Poor Droughty Low content of organic matter Too acid Cobble content Depth to bedrock	0.00 0.88 0.95 0.98 0.99	Poor Depth to bedrock Cobble content	0.00 0.31	Poor Rock fragments Depth to bedrock	0.00 0.99
Gerle-----	35	Fair Low content of organic matter Too acid	0.88 0.92	Good		Fair Hard to reclaim Rock fragments	0.12 0.88
338: Redriver-----	50	Poor Droughty Low content of organic matter Cobble content Too acid Depth to bedrock	0.00 0.88 0.88 0.95 0.97	Poor Depth to bedrock Cobble content	0.00 0.16	Poor Rock fragments Depth to bedrock	0.00 0.97
Weste-----	30	Poor Droughty Depth to bedrock Too acid	0.00 0.10 0.99	Poor Depth to bedrock	0.00	Poor Rock fragments Depth to bedrock	0.00 0.10
339: Redriver, stony sandy loam-----	50	Poor Droughty Depth to bedrock Low content of organic matter Too acid Cobble content	0.00 0.35 0.88 0.95 0.99	Poor Depth to bedrock Cobble content	0.00 0.66	Poor Rock fragments Depth to bedrock	0.00 0.35
Woodwest-----	20	Poor Droughty Depth to bedrock Stone content Cobble content Too acid	0.00 0.00 0.00 0.63 0.99	Poor Depth to bedrock Stone content Cobble content	0.00 0.56 0.66	Poor Rock fragments Depth to bedrock	0.00 0.00
Wafle-----	15	Fair Droughty	0.99	Fair Depth to bedrock Cobble content	0.74 0.98	Poor Rock fragments	0.00

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
340: Rices-----	85	Poor Sodium content	0.00	Fair Depth to saturated zone	0.91	Poor Sodium content	0.00
		Carbonate content	0.46			Carbonate content	0.46
		Low content of organic matter	0.88			Salinity	0.88
		Water erosion	0.90			Depth to saturated zone	0.91
341: Rose Creek-----	75	Fair Sodium content	0.78	Fair Depth to saturated zone	0.76	Fair Rock fragments	0.72
		Water erosion	0.99			Depth to saturated zone	0.76
						Sodium content	0.78
342: Rose Creek-----	80	Poor Low content of organic matter	0.00	Fair Depth to saturated zone	0.91	Fair Salinity	0.50
		Sodium content	0.78			Sodium content	0.78
		Water erosion	0.99			Depth to saturated zone	0.91
343: Rubble land-----	60	Not rated Stone content	0.00	Not rated Stone content	0.00	Not rated Slope	0.00
		Droughty	0.00	Cobble content	0.00	Hard to reclaim	0.00
		Low content of organic matter	0.01	Slope	0.00	Hard to reclaim	0.00
		Cobble content	0.08			Rock fragments	0.00
Fiddler-----	25	Poor Stone content	0.00	Poor Depth to bedrock	0.00	Poor Slope	0.00
		Droughty	0.00	Low strength	0.00	Rock fragments	0.00
		Too clayey	0.00	Stone content	0.00	Too clayey	0.00
		Depth to bedrock	0.05	Cobble content	0.00	Depth to bedrock	0.05
		Cobble content	0.15	Slope	0.00		
		Low content of organic matter	0.88	Shrink-swell	0.87		
344: Rubble land-----	40	Not rated Stone content	0.00	Not rated Slope	0.00	Not rated Slope	0.00
		Droughty	0.00	Stone content	0.00	Hard to reclaim	0.00
		Low content of organic matter	0.01	Cobble content	0.00	Hard to reclaim	0.00
		Cobble content	0.32			Rock fragments	0.00
Longcreek-----	30	Poor Too clayey	0.00	Poor Depth to bedrock	0.00	Poor Slope	0.00
		Droughty	0.00	Slope	0.00	Too clayey	0.00
		Depth to bedrock	0.00	Low strength	0.00	Rock fragments	0.00
		Cobble content	0.82	Cobble content	0.82	Depth to bedrock	0.00
		Low content of organic matter	0.88	Shrink-swell	0.87		
		Stone content	0.98				
Fivesprings-----	20	Poor Droughty	0.00	Poor Depth to bedrock	0.00	Poor Slope	0.00
		Too clayey	0.00	Slope	0.00	Rock fragments	0.00
		Depth to bedrock	0.05	Shrink-swell	0.12	Too clayey	0.00
						Depth to bedrock	0.05

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
345: Rubble land-----	45	Not rated Stone content Droughty Low content of organic matter Cobble content	 0.00 0.00 0.01 0.08	Not rated Slope Stone content Cobble content	 0.00 0.00 0.00	Not rated Slope Hard to reclaim Hard to reclaim	 0.00 0.00 0.00
Rock outcrop-----	40	Not rated Low content of organic matter	 0.00	Not rated Slope	 0.00	Not rated Slope	 0.00
346: Rubble land-----	60	Not rated Stone content Droughty Low content of organic matter Cobble content	 0.00 0.00 0.01 0.08	Not rated Stone content Cobble content Slope	 0.00 0.00 0.00	Not rated Hard to reclaim Hard to reclaim Rock fragments Slope	 0.00 0.00 0.00 0.00
Waste-----	20	Poor Droughty Stone content Depth to bedrock Too acid	 0.00 0.02 0.10 0.99	Poor Depth to bedrock Slope Stone content	 0.00 0.00 0.52	Poor Rock fragments Slope Depth to bedrock	 0.00 0.00 0.10
347: Saddlerock-----	80	Poor Too clayey	 0.00	Poor Depth to saturated zone Low strength Shrink-swell	 0.00 0.00 0.12	Poor Too clayey Depth to saturated zone	 0.00 0.00
348: Saddlerock-----	80	Poor Too clayey	 0.00	Poor Low strength Shrink-swell Depth to saturated zone	 0.00 0.12 0.98	Poor Too clayey Depth to saturated zone	 0.00 0.98
349: Saddlerock-----	80	Poor Too clayey	 0.00	Poor Low strength Shrink-swell	 0.00 0.12	Poor Too clayey	 0.00
350: Saddlerock-----	30	Poor Too clayey	 0.00	Poor Low strength Shrink-swell Depth to saturated zone	 0.00 0.12 0.98	Poor Too clayey Depth to saturated zone	 0.00 0.98
Yobe-----	30	Poor Low content of organic matter Sodium content Too alkaline Salinity Water erosion	 0.00 0.00 0.00 0.00 0.68	Poor Low strength Shrink-swell	 0.00 0.87	Not rated Sodium content Salinity	 0.00 0.88

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Termo-----	25	Poor Too clayey Sodium content Salinity Low content of organic matter Water erosion	0.00 0.00 0.50 0.88 0.99	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to saturated zone Sodium content Salinity	0.00 0.00 0.00 0.88
351: Said-----	85	Fair Too acid Stone content	0.84 0.99	Fair Slope Depth to bedrock	0.82 0.95	Poor Hard to reclaim Slope Rock fragments	0.00 0.00 0.28
352: Said-----	50	Fair Too acid Too clayey	0.84 0.98	Poor Slope Depth to bedrock	0.00 0.95	Poor Slope Rock fragments Hard to reclaim Too clayey	0.00 0.00 0.00 0.98
Fraval-----	35	Poor Droughty Depth to bedrock Low content of organic matter Too acid	0.00 0.84 0.88 0.99	Poor Depth to bedrock Slope Cobble content Shrink-swell	0.00 0.00 0.84 0.94	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.84
353: Said-----	60	Fair Too acid Too clayey	0.92 0.98	Fair Slope Depth to bedrock	0.50 0.95	Poor Rock fragments Hard to reclaim Slope Too clayey	0.00 0.00 0.00 0.98
Ninemile-----	25	Poor Too clayey Droughty Depth to bedrock	0.00 0.00 0.00	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock Rock fragments	0.00 0.00 0.95
354: Scaribou-----	85	Fair Low content of organic matter Droughty Too acid	0.88 0.90 0.99	Fair Slope Shrink-swell	0.82 0.95	Poor Hard to reclaim Rock fragments Slope	0.00 0.00 0.00
355: Scaribou-----	55	Fair Cobble content Too acid Droughty	0.95 0.99 0.99	Poor Slope Cobble content Shrink-swell	0.00 0.01 0.94	Poor Slope Rock fragments Hard to reclaim	0.00 0.00 0.00
Penstock-----	20	Fair Too acid	0.95	Poor Slope Stone content	0.00 0.98	Poor Slope Hard to reclaim Rock fragments	0.00 0.00 0.00
Rock outcrop-----	15	Not rated Low content of organic matter	0.00	Not rated Slope	0.00	Not rated Slope	0.00

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
356: Searles-----	35	Fair Low content of organic matter Droughty Depth to bedrock Stone content	0.12 0.17 0.46 0.99	Poor Depth to bedrock Slope Shrink-swell	0.00 0.50 0.94	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.46
Devada-----	25	Poor Too clayey Droughty Depth to bedrock	0.00 0.00 0.00	Poor Depth to bedrock Low strength Shrink-swell Cobble content	0.00 0.00 0.12 0.91	Poor Too clayey Depth to bedrock Rock fragments	0.00 0.00 0.28
Fivesprings-----	25	Poor Droughty Too clayey Depth to bedrock	0.00 0.00 0.05	Poor Depth to bedrock Shrink-swell Slope	0.00 0.12 0.50	Poor Slope Rock fragments Too clayey Depth to bedrock	0.00 0.00 0.00 0.05
357: Searles-----	40	Fair Droughty Stone content Depth to bedrock Cobble content	0.01 0.15 0.46 0.89	Poor Depth to bedrock Slope Cobble content Stone content	0.00 0.00 0.31 0.36	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.46
Devada-----	25	Poor Too clayey Droughty Depth to bedrock	0.00 0.00 0.00	Poor Depth to bedrock Slope Low strength Shrink-swell Cobble content	0.00 0.00 0.00 0.12 0.91	Poor Slope Too clayey Depth to bedrock Rock fragments	0.00 0.00 0.00 0.28
Rubble land-----	20	Not rated Stone content Droughty Low content of organic matter Cobble content	0.00 0.00 0.01 0.08	Not rated Slope Stone content Cobble content	0.00 0.00 0.00	Not rated Slope Hard to reclaim Hard to reclaim Rock fragments	0.00 0.00 0.00 0.00
358: Searles-----	50	Poor Stone content Droughty Depth to bedrock Cobble content	0.00 0.01 0.46 0.90	Poor Depth to bedrock Stone content Cobble content Slope	0.00 0.00 0.33 0.50	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.46
Glean-----	35	Fair Droughty	0.17	Fair Depth to bedrock	0.12	Poor Rock fragments Hard to reclaim Slope	0.00 0.00 0.84
359: Searles-----	50	Poor Stone content Droughty Cobble content Depth to bedrock	0.00 0.01 0.27 0.46	Poor Depth to bedrock Slope Cobble content Stone content	0.00 0.00 0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.46
Glean-----	35	Fair Droughty	0.17	Poor Slope Depth to bedrock	0.00 0.12	Poor Slope Rock fragments Hard to reclaim	0.00 0.00 0.00

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
360: Searles-----	35	Poor Stone content Droughty Cobble content Depth to bedrock	0.00 0.01 0.27 0.46	Poor Depth to bedrock Cobble content Stone content Slope	0.00 0.00 0.00 0.82	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.46
Orhood-----	30	Poor Stone content Droughty Depth to bedrock Low content of organic matter Cobble content	0.00 0.00 0.00 0.88 0.95	Poor Depth to bedrock Stone content Cobble content Slope	0.00 0.00 0.60 0.82	Poor Rock fragments Depth to bedrock Slope	0.00 0.00 0.00
Devada-----	20	Poor Too clayey Droughty Depth to bedrock	0.00 0.00 0.00	Poor Depth to bedrock Low strength Shrink-swell Slope Cobble content	0.00 0.00 0.12 0.82 0.91	Poor Too clayey Depth to bedrock Slope Rock fragments	0.00 0.00 0.00 0.28
361: Shinnpeak, very cobble sandy loam--	85	Poor Droughty Depth to cemented pan	0.00 0.00 0.00	Poor Depth to cemented pan Shrink-swell	0.00 0.87	Poor Rock fragments Depth to cemented pan	0.00 0.00
362: Smocreek-----	90	Poor Sodium content Salinity Water erosion	0.00 0.50 0.90	Poor Low strength Shrink-swell	0.00 0.95	Poor Sodium content Salinity	0.00 0.00
363: Smocreek, silt loam--	80	Poor Sodium content Salinity Water erosion	0.00 0.50 0.90	Poor Low strength Shrink-swell	0.00 0.93	Poor Sodium content Salinity	0.00 0.00
364: Southpac-----	85	Fair Too acid	0.99	Poor Slope Stone content Cobble content	0.00 0.95 0.96	Poor Slope Rock fragments Hard to reclaim	0.00 0.00 0.88
365: Springmeyer-----	95	Fair Low content of organic matter	0.12	Fair Shrink-swell	0.89	Fair Rock fragments	0.50
366: Springmeyer-----	95	Good		Fair Shrink-swell	0.87	Fair Rock fragments	0.50
367: Stacy-----	85	Good		Good		Fair Hard to reclaim	0.98
368: Standish-----	85	Poor Sodium content Low content of organic matter Water erosion	0.00 0.12 0.99	Good		Poor Sodium content Salinity	0.00 0.50

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
369: Stiles-----	90	Fair Low content of organic matter Droughty Depth to bedrock Sodium content Water erosion	0.12 0.41 0.54 0.78 0.90	Poor Depth to bedrock	0.00	Fair Rock fragments Salinity Depth to bedrock Sodium content	0.24 0.50 0.54 0.78
370: Sumine-----	35	Fair Droughty Depth to bedrock Cobble content	0.01 0.21 0.99	Poor Depth to bedrock Slope Cobble content	0.00 0.00 0.73	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.21
Softscrabble, stony fine sandy loam----	30	Poor Cobble content Droughty Too clayey	0.00 0.94 0.98	Poor Cobble content Slope Shrink-swell Stone content	0.00 0.00 0.89 0.99	Poor Slope Hard to reclaim Rock fragments Too clayey	0.00 0.00 0.00 0.86
Hutchley-----	15	Poor Droughty Depth to bedrock Stone content	0.00 0.00 0.58	Poor Depth to bedrock Slope Shrink-swell Stone content	0.00 0.50 0.87 0.88	Poor Slope Depth to bedrock Rock fragments	0.00 0.00 0.00
371: Susanville-----	85	Poor Sodium content Too clayey Salinity Water erosion Low content of organic matter	0.00 0.00 0.00 0.90 0.92	Poor Low strength Shrink-swell	0.00 0.41	Poor Sodium content Salinity Too clayey	0.00 0.00 0.00
372: Susanville-----	50	Poor Sodium content Too clayey Salinity Water erosion Low content of organic matter	0.00 0.00 0.00 0.90 0.92	Poor Low strength Shrink-swell	0.00 0.41	Poor Sodium content Salinity Too clayey	0.00 0.00 0.00
Smocreek-----	35	Poor Sodium content Salinity Water erosion	0.00 0.50 0.90	Poor Low strength Shrink-swell	0.00 0.95	Poor Sodium content Salinity	0.00 0.00
373: Swainow-----	40	Poor Stone content Droughty Too acid	0.00 0.06 0.95	Poor Stone content Depth to bedrock Cobble content Slope	0.00 0.12 0.97 0.98	Poor Hard to reclaim Rock fragments Slope	0.00 0.00 0.00
Almanor-----	30	Not rated Droughty Too acid	0.10 0.99	Poor Depth to bedrock Cobble content Slope	0.00 0.57 0.98	Not rated Hard to reclaim Rock fragments Slope	0.00 0.00 0.00

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Tahand-----	20	Fair Too acid Low content of organic matter Too clayey	0.84 0.88 0.98	Fair Depth to bedrock Shrink-swell Slope	0.21 0.87 0.98	Poor Rock fragments Slope Hard to reclaim Too clayey	0.00 0.00 0.08 0.70
374: Swainow, very stony sandy loam-----	55	Poor Stone content Droughty Too acid	0.00 0.06 0.95	Poor Stone content Slope Depth to bedrock Cobble content	0.00 0.08 0.12 0.98	Poor Slope Hard to reclaim Rock fragments	0.00 0.00 0.00 0.00
Almanor-----	20	Not rated Droughty Too acid	0.10 0.99	Poor Depth to bedrock Slope Cobble content	0.00 0.08 0.57	Not rated Slope Hard to reclaim Rock fragments	0.00 0.00 0.00 0.00
375: Swainow-----	50	Fair Droughty Too acid Stone content Cobble content	0.08 0.95 0.97 0.99	Fair Depth to bedrock Cobble content	0.29 0.65	Poor Hard to reclaim Rock fragments	0.00 0.00 0.00
Redriver-----	35	Poor Droughty Depth to bedrock Low content of organic matter Too acid Cobble content	0.00 0.35 0.88 0.95 0.99	Poor Depth to bedrock Cobble content	0.00 0.69	Poor Rock fragments Depth to bedrock	0.00 0.35
376: Swainow-----	55	Poor Stone content Droughty Too acid	0.00 0.06 0.95	Poor Slope Stone content Depth to bedrock Cobble content	0.00 0.00 0.12 0.97	Poor Slope Hard to reclaim Rock fragments	0.00 0.00 0.00 0.00
Tahand-----	35	Fair Too acid Low content of organic matter Too clayey	0.84 0.88 0.98	Poor Slope Depth to bedrock Shrink-swell	0.00 0.21 0.87	Poor Slope Rock fragments Hard to reclaim Too clayey	0.00 0.00 0.08 0.70
377: Tahand-----	45	Fair Too acid Low content of organic matter Too clayey	0.84 0.88 0.98	Fair Depth to bedrock Slope Shrink-swell	0.21 0.82 0.87	Poor Rock fragments Slope Hard to reclaim Too clayey	0.00 0.00 0.08 0.70
Baileycreek-----	35	Poor Droughty Depth to bedrock Too acid	0.00 0.10 0.99	Poor Depth to bedrock Slope	0.00 0.82	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.10

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
378: Tahand-----	35	Fair Too acid Low content of organic matter Too clayey	0.84 0.88 0.98	Fair Depth to bedrock Shrink-swell	0.21 0.87	Poor Rock fragments Hard to reclaim Too clayey Slope	0.00 0.08 0.70 0.96
Swainow-----	30	Fair Droughty Stone content Too acid	0.10 0.62 0.95	Fair Depth to bedrock Stone content Cobble content	0.12 0.81 0.91	Poor Hard to reclaim Rock fragments Slope	0.00 0.12 0.96
Almanor-----	20	Not rated Droughty Too acid	0.10 0.99	Poor Depth to bedrock Cobble content	0.00 0.57	Not rated Hard to reclaim Rock fragments Slope	0.00 0.00 0.96
379: Termo-----	50	Poor Too clayey Sodium content Salinity Low content of organic matter Water erosion	0.00 0.00 0.00 0.88 0.99	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to saturated zone Sodium content Salinity	0.00 0.00 0.00 0.88
Biscaro-----	30	Fair Sodium content Droughty Water erosion Low content of organic matter Depth to bedrock	0.22 0.53 0.68 0.88 0.99	Poor Depth to bedrock Depth to saturated zone Shrink-swell	0.00 0.00 0.99	Poor Depth to saturated zone Rock fragments Sodium content Depth to bedrock	0.00 0.00 0.98 0.99
380: Termo-----	75	Poor Too clayey Sodium content Salinity Low content of organic matter Water erosion	0.00 0.00 0.00 0.88 0.99	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to saturated zone Sodium content Salinity	0.00 0.00 0.00 0.88
Playas-----	15	Poor Droughty Low content of organic matter Salinity Too clayey Too alkaline Water erosion	0.00 0.00 0.00 0.00 0.00 0.99	Not rated Shrink-swell	0.12	Not rated Salinity	0.00

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
381: Termo-----	60	Poor Too clayey Sodium content Salinity Low content of organic matter Water erosion	0.00 0.00 0.00 0.88 0.99	Poor Depth to saturated zone Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to saturated zone Sodium content Salinity	0.00 0.00 0.00 0.88
Springmeyer-----	15	Good		Fair Shrink-swell	0.87	Fair Rock fragments	0.50
Smocreek-----	10	Poor Sodium content Salinity Water erosion	0.00 0.50 0.90	Poor Low strength Shrink-swell	0.00 0.95	Poor Sodium content Salinity	0.00 0.00
382: Toiyabe-----	50	Poor Wind erosion Droughty Depth to bedrock Low content of organic matter Too sandy Too acid	0.00 0.00 0.00 0.12 0.94 0.99	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Depth to bedrock Rock fragments Too sandy	0.00 0.00 0.03 0.94
Lasco-----	20	Fair Droughty Low content of organic matter Too acid	0.27 0.88 0.99	Poor Slope Depth to bedrock	0.00 0.46	Poor Slope Rock fragments Hard to reclaim	0.00 0.00 0.50
Quartzburg-----	15	Poor Droughty Low content of organic matter Depth to bedrock Too acid	0.00 0.12 0.21 0.92	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.21
383: Toiyabe-----	55	Poor Droughty Depth to bedrock Low content of organic matter Too sandy Too acid	0.00 0.00 0.12 0.94 0.99	Poor Depth to bedrock Slope	0.00 0.98	Poor Depth to bedrock Slope Rock fragments Too sandy	0.00 0.00 0.03 0.94
Lasco-----	30	Fair Droughty Low content of organic matter Too acid	0.27 0.88 0.99	Fair Depth to bedrock Slope	0.46 0.98	Poor Rock fragments Slope Hard to reclaim	0.00 0.00 0.50
384: Torriorthents-----	65	Poor Too alkaline Droughty Sodium content Low content of organic matter	0.00 0.00 0.78 0.88	Good		Fair Rock fragments Sodium content	0.12 0.78

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Zorravista-----	25	Poor Wind erosion Too sandy Droughty Low content of organic matter	0.00 0.06 0.10 0.12	Good		Fair Too sandy	0.06
385: Truax-----	85	Good		Good		Fair Hard to reclaim Rock fragments	0.95 0.95
386: Truckee-----	90	Fair Water erosion	0.99	Fair Shrink-swell	0.94	Good	
387: Truckee-----	55	Poor Low content of organic matter	0.00	Fair Shrink-swell Depth to saturated zone	0.87 0.91	Not rated Depth to saturated zone	0.91
Humboldt-----	30	Poor Too clayey	0.00	Poor Low strength Depth to saturated zone Shrink-swell	0.00 0.76 0.87	Poor Too clayey Depth to saturated zone	0.00 0.76
388: Tunnison-----	85	Poor Too clayey Droughty Depth to bedrock Low content of organic matter	0.00 0.41 0.65 0.88	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock	0.00 0.65
389: Tunnison-----	60	Poor Too clayey Droughty Depth to bedrock Low content of organic matter	0.00 0.41 0.65 0.88	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock	0.00 0.65
Devada-----	30	Poor Too clayey Droughty Depth to bedrock	0.00 0.00 0.00	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock Rock fragments	0.00 0.00 0.28
390: Tunnison-----	50	Poor Too clayey Droughty Depth to bedrock Low content of organic matter	0.00 0.41 0.65 0.88	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock	0.00 0.65
Devada-----	45	Poor Too clayey Droughty Depth to bedrock	0.00 0.00 0.00	Poor Depth to bedrock Low strength Shrink-swell Cobble content	0.00 0.00 0.12 0.88	Poor Too clayey Depth to bedrock Rock fragments	0.00 0.00 0.28

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
391: Ulhalf-----	85	Fair Low content of organic matter Too acid	0.88 0.95	Poor Slope Depth to bedrock Shrink-swell	0.00 0.87 0.95	Poor Slope Rock fragments Hard to reclaim	0.00 0.00 0.32
392: Ulhalf-----	90	Fair Low content of organic matter Too acid	0.88 0.95	Fair Depth to bedrock Shrink-swell	0.87 0.95	Poor Rock fragments Hard to reclaim Slope	0.00 0.32 0.96
393: Ulhalf-----	60	Fair Low content of organic matter Too acid	0.88 0.95	Fair Depth to bedrock Shrink-swell	0.87 0.95	Poor Rock fragments Hard to reclaim	0.00 0.32
Gavel-----	30	Poor Droughty Depth to bedrock Stone content	0.00 0.29 0.73	Poor Depth to bedrock Stone content Cobble content	0.00 0.96 0.97	Poor Rock fragments Depth to bedrock Slope	0.00 0.29 0.96
394: Ulhalf-----	60	Fair Low content of organic matter Too acid	0.88 0.95	Fair Depth to bedrock Shrink-swell	0.87 0.95	Poor Rock fragments Hard to reclaim	0.00 0.32
Southpac-----	30	Fair Too acid	0.99	Fair Slope Cobble content Stone content	0.50 0.93 0.94	Poor Rock fragments Slope Hard to reclaim	0.00 0.00 0.24
395: Verdico-----	50	Poor Too clayey Depth to bedrock Droughty Low content of organic matter	0.00 0.46 0.55 0.88	Poor Depth to bedrock Low strength Shrink-swell Slope	0.00 0.00 0.12 0.50	Poor Too clayey Slope Depth to bedrock	0.00 0.00 0.46
Chalco-----	40	Poor Too clayey Droughty Depth to bedrock Low content of organic matter	0.00 0.00 0.00 0.12	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock Rock fragments	0.00 0.00 0.97
396: Wespac-----	85	Poor Wind erosion Sodium content Low content of organic matter Salinity Water erosion	0.00 0.00 0.12 0.50 0.68	Good		Poor Sodium content Salinity	0.00 0.00
397: Wespac-----	50	Poor Sodium content Low content of organic matter Salinity Water erosion	0.00 0.12 0.50 0.68	Good		Poor Sodium content Salinity	0.00 0.00

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Playas-----	30	Poor Droughty Low content of organic matter Salinity Too clayey Too alkaline Water erosion	0.00 0.00 0.00 0.00 0.00 0.99	Not rated Shrink-swell	0.12	Not rated Salinity	0.00
398: Waste-----	35	Poor Droughty Depth to bedrock Stone content Too acid	0.00 0.46 0.84 0.99	Poor Depth to bedrock Slope Stone content Cobble content	0.00 0.82 0.93 0.96	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.46
Baileycreek-----	30	Poor Droughty Depth to bedrock Stone content Too acid	0.00 0.21 0.67 0.99	Poor Depth to bedrock Slope Stone content Cobble content	0.00 0.82 0.83 0.88	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.21
Tahand-----	20	Fair Too acid Low content of organic matter Too clayey	0.84 0.88 0.98	Fair Depth to bedrock Slope Shrink-swell	0.21 0.82 0.87	Poor Rock fragments Slope Hard to reclaim Too clayey	0.00 0.00 0.08 0.70
399: Waste-----	65	Poor Droughty Depth to bedrock Too acid	0.00 0.10 0.99	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.00 0.10
Rock outcrop-----	15	Not rated Low content of organic matter	0.00	Not rated Slope	0.00	Not rated Slope	0.00
400: Whitinger-----	45	Poor Stone content Droughty Low content of organic matter Depth to bedrock	0.00 0.00 0.12 0.21	Poor Depth to bedrock Stone content Slope	0.00 0.00 0.82	Poor Rock fragments Slope Depth to bedrock	0.00 0.00 0.21
Devada-----	35	Poor Too clayey Droughty Depth to bedrock	0.00 0.00 0.00	Poor Depth to bedrock Low strength Shrink-swell Slope Cobble content	0.00 0.00 0.12 0.82 0.91	Poor Too clayey Depth to bedrock Slope Rock fragments	0.00 0.00 0.00 0.28
401: Whorled-----	45	Poor Droughty Depth to bedrock Too acid	0.00 0.26 0.99	Poor Depth to bedrock Slope	0.00 0.08	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.26
Almanor-----	35	Not rated Droughty Too acid	0.10 0.99	Poor Depth to bedrock Slope Cobble content	0.00 0.08 0.57	Not rated Slope Hard to reclaim Rock fragments	0.00 0.00 0.00 0.00

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
402: Wylo-----	50	Poor Droughty Depth to bedrock Stone content	0.00 0.00 0.73	Poor Depth to bedrock Shrink-swell Slope Stone content	0.00 0.12 0.50 0.93	Poor Depth to bedrock Rock fragments Slope	0.00 0.00 0.00
Bucklake-----	35	Poor Droughty Too clayey Depth to bedrock Stone content Low content of organic matter	0.00 0.00 0.10 0.80 0.88	Poor Depth to bedrock Slope Low strength Shrink-swell Stone content	0.00 0.00 0.00 0.20 0.99	Poor Slope Rock fragments Too clayey Depth to bedrock	0.00 0.00 0.00 0.00 0.10
403: Wylo-----	40	Poor Droughty Depth to bedrock Stone content	0.00 0.00 0.73	Poor Depth to bedrock Shrink-swell Stone content	0.00 0.12 0.93	Poor Depth to bedrock Rock fragments	0.00 0.00
Diaz-----	30	Poor Too clayey Droughty Depth to bedrock Low content of organic matter Water erosion	0.00 0.13 0.16 0.88 0.99	Poor Depth to bedrock Low strength Shrink-swell Slope	0.00 0.00 0.12 0.50	Poor Too clayey Slope Depth to bedrock Rock fragments	0.00 0.00 0.16 0.88
Brubeck-----	15	Poor Too clayey Droughty Depth to bedrock Low content of organic matter	0.00 0.65 0.71 0.88	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock	0.00 0.71
404: Wylo-----	40	Poor Droughty Depth to bedrock Stone content	0.00 0.00 0.73	Poor Depth to bedrock Shrink-swell Slope Stone content	0.00 0.12 0.50 0.93	Poor Depth to bedrock Rock fragments Slope	0.00 0.00 0.00
Pickup-----	30	Poor Too clayey Droughty Depth to bedrock Stone content Low content of organic matter	0.00 0.00 0.21 0.61 0.88	Poor Depth to bedrock Slope Stone content Shrink-swell	0.00 0.00 0.80 0.87	Poor Slope Too clayey Rock fragments Depth to bedrock	0.00 0.00 0.00 0.00 0.21
Bucklake-----	20	Poor Droughty Too clayey Depth to bedrock Stone content Low content of organic matter	0.00 0.00 0.10 0.80 0.88	Poor Depth to bedrock Slope Low strength Shrink-swell Stone content	0.00 0.00 0.00 0.20 0.99	Poor Slope Rock fragments Too clayey Depth to bedrock	0.00 0.00 0.00 0.00 0.10
405: Xerolls-----	55	Poor Wind erosion Droughty	0.00 0.71	Good		Fair Rock fragments	0.97

TABLE 15.--CONSTRUCTION MATERIALS--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Aquolls-----	45	Fair Droughty	0.71	Not rated Depth to saturated zone	0.00	Poor Depth to saturated zone Hard to reclaim Rock fragments	0.00 0.00 0.00
406: Yobe-----	85	Poor Sodium content Too alkaline Salinity Low content of organic matter Water erosion	0.00 0.00 0.00 0.12 0.68	Poor Low strength Shrink-swell	0.00 0.87	Poor Sodium content Salinity	0.00 0.88
407: Zorravista-----	85	Poor Wind erosion Too sandy Droughty Low content of organic matter	0.00 0.06 0.10 0.12	Good		Fair Too sandy	0.06
408: Zorravista-----	90	Poor Wind erosion Too sandy Droughty Low content of organic matter	0.00 0.06 0.09 0.12	Good		Fair Too sandy Slope	0.06 0.96
409: Water-----	100	Not rated		Not rated		Not rated	

TABLE 16.--WATER MANAGEMENT

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
101: Almanor-----	40	Very limited Seepage Depth to bedrock	1.00 0.46	Somewhat limited Thin layer Seepage	0.46 0.12	Very limited Depth to water	1.00
Whorled-----	35	Very limited Seepage Depth to bedrock	1.00 0.93	Somewhat limited Thin layer Seepage	0.94 0.19	Very limited Depth to water	1.00
Inville-----	20	Somewhat limited Seepage Depth to bedrock	0.72 0.01	Somewhat limited Thin layer	0.29	Very limited Depth to water	1.00
102: Alomax, very stony sandy loam-----	40	Very limited Depth to bedrock Slope	1.00 0.88	Very limited Thin layer Content of large stones Seepage	1.00 1.00 0.04	Very limited Depth to water	1.00
Glean-----	25	Very limited Seepage Depth to bedrock Slope	1.00 0.29 0.12	Somewhat limited Thin layer Seepage	0.29 0.06	Very limited Depth to water	1.00
Rock outcrop-----	25	Very limited		Not rated		Not rated	
103: Anawalt-----	50	Very limited Depth to bedrock	1.00	Very limited Thin layer Hard to pack	1.00 0.10	Very limited Depth to water	1.00
Ninemile-----	30	Very limited Depth to bedrock	1.00	Very limited Thin layer Hard to pack	1.00 0.48	Very limited Depth to water	1.00
104: Ardep-----	85	Very limited Seepage	1.00	Very limited Piping Seepage Salinity	1.00 0.50 0.12	Very limited Depth to water	1.00
105: Ardep-----	85	Very limited Seepage	1.00	Very limited Piping Depth to saturated zone Seepage Salinity	1.00 0.84 0.50 0.12	Very limited Depth to water	1.00
106: Ardep-----	85	Very limited Seepage	1.00	Very limited Piping Salinity Seepage	1.00 1.00 0.50	Very limited Depth to water	1.00
107: Ardep-----	85	Very limited Seepage	1.00	Very limited Piping Seepage Salinity	1.00 0.50 0.12	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
108: Ardep-----	40	Very limited Seepage	1.00	Very limited Piping Seepage Salinity	1.00 0.50 0.12	Very limited Depth to water	1.00
Wespac-----	35	Somewhat limited Seepage	0.72	Very limited Piping Salinity	1.00 0.50	Very limited Depth to water	1.00
Zorravista-----	15	Very limited Seepage	1.00	Somewhat limited Seepage	0.34	Very limited Depth to water	1.00
109: Artray-----	85	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.54	Very limited Cutbanks cave	1.00
110: Badenaugh-----	80	Somewhat limited Seepage	0.72	Somewhat limited Content of large stones	0.11	Very limited Depth to water	1.00
111: Baileycreek-----	45	Somewhat limited Seepage Depth to bedrock	0.72 0.11	Somewhat limited Thin layer	0.86	Very limited Depth to water	1.00
Weste-----	35	Somewhat limited Depth to bedrock Seepage	0.95 0.72	Somewhat limited Thin layer	0.95	Very limited Depth to water	1.00
112: Baileycreek-----	50	Somewhat limited Seepage Depth to bedrock Slope	0.72 0.34 0.18	Somewhat limited Thin layer Content of large stones	0.99 0.01	Very limited Depth to water	1.00
Weste-----	35	Somewhat limited Depth to bedrock Seepage Slope	0.74 0.72 0.18	Somewhat limited Thin layer Content of large stones	0.74 0.04	Very limited Depth to water	1.00
113: Baileycreek-----	50	Somewhat limited Slope Seepage Depth to bedrock	0.88 0.72 0.42	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Weste-----	35	Somewhat limited Depth to bedrock Slope Seepage	0.88 0.88 0.72	Somewhat limited Thin layer Content of large stones	0.88 0.06	Very limited Depth to water	1.00
114: Barnard-----	70	Very limited Seepage Depth to cemented pan	1.00 1.00	Very limited Thin layer Seepage	1.00 0.10	Very limited Depth to water	1.00
115: Beckwourth-----	50	Very limited Seepage	1.00	Somewhat limited Seepage	0.12	Very limited Cutbanks cave Depth to water	1.00 0.81

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Fordney-----	35	Very limited Seepage	1.00	Somewhat limited Seepage	0.13	Very limited Depth to water	1.00
116: Bieber-----	80	Very limited Depth to cemented pan	1.00	Very limited Thin layer Hard to pack	1.00 0.02	Very limited Depth to water	1.00
117: Biscaro-----	85	Somewhat limited Seepage Depth to bedrock	0.04 0.02	Very limited Ponding Depth to saturated zone Piping Thin layer	1.00 1.00 1.00 0.56	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
118: Biscaro-----	50	Somewhat limited Seepage Depth to bedrock	0.04 0.02	Very limited Ponding Depth to saturated zone Piping Thin layer	1.00 1.00 1.00 0.56	Somewhat limited Cutbanks cave	0.10
Calnat-----	35	Somewhat limited Seepage Depth to bedrock	0.72 0.02	Very limited Salinity Piping Thin layer	1.00 1.00 0.56	Very limited Depth to water	1.00
119: Biscaro-----	65	Somewhat limited Seepage Depth to bedrock	0.72 0.02	Very limited Ponding Depth to saturated zone Piping Thin layer Seepage	1.00 1.00 0.78 0.61 0.50	Very limited Cutbanks cave Slow refill	1.00 0.28
Playas, silty clay--	20	Not limited		Very limited Ponding Salinity Hard to pack	1.00 1.00 0.50	Very limited Depth to water	1.00
120: Blickenstaff-----	85	Very limited Seepage	1.00	Somewhat limited Piping Seepage	0.60 0.04	Very limited Cutbanks cave Depth to water	1.00 0.90
121: Honeylake-----	95	Very limited Seepage	1.00	Very limited Piping Depth to saturated zone Seepage	1.00 0.73 0.08	Very limited Cutbanks cave Depth to water Salty water	1.00 0.12 0.06
122: Bobert-----	90	Somewhat limited Seepage	0.04	Very limited Piping Salinity Seepage	1.00 1.00 0.04	Very limited Salty water Slow refill Depth to water Cutbanks cave	1.00 0.96 0.90 0.10
123: Bobert-----	85	Somewhat limited Seepage	0.04	Very limited Piping Salinity Seepage	1.00 0.50 0.04	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
124: Bonta-----	80	Very limited Seepage Depth to bedrock Slope	1.00 0.03 0.01	Somewhat limited Thin layer Seepage	0.66 0.05	Very limited Depth to water	1.00
125: Bonta-----	80	Very limited Seepage Slope Depth to bedrock	1.00 0.21 0.03	Somewhat limited Thin layer Seepage	0.66 0.05	Very limited Depth to water	1.00
126: Bonta-----	75	Very limited Seepage Slope Depth to bedrock	1.00 0.88 0.05	Somewhat limited Thin layer Seepage	0.74 0.05	Very limited Depth to water	1.00
127: Boulder Lake-----	90	Somewhat limited Seepage	0.04	Very limited Ponding Depth to saturated zone Hard to pack	1.00 1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
128: Boulder Lake-----	95	Somewhat limited Seepage	0.04	Very limited Ponding Depth to saturated zone Hard to pack	1.00 1.00 1.00	Somewhat limited Slow refill Cutbanks cave	0.96 0.10
129: Brubeck-----	85	Very limited Seepage Depth to bedrock	1.00 0.81	Somewhat limited Thin layer Hard to pack	0.81 0.72	Very limited Depth to water	1.00
130: Brubeck-----	80	Very limited Seepage Depth to bedrock Slope	1.00 0.81 0.08	Somewhat limited Thin layer Hard to pack	0.81 0.72	Very limited Depth to water	1.00
131: Brubeck-----	50	Very limited Seepage Depth to bedrock Slope	1.00 0.81 0.04	Somewhat limited Thin layer Hard to pack	0.81 0.72	Very limited Depth to water	1.00
Diaz-----	35	Somewhat limited Depth to bedrock Slope	0.96 0.04	Somewhat limited Thin layer Hard to pack	0.96 0.22	Very limited Depth to water	1.00
132: Brubeck-----	50	Very limited Seepage Depth to bedrock	1.00 0.81	Somewhat limited Thin layer Hard to pack	0.81 0.72	Very limited Depth to water	1.00
Loomis-----	35	Very limited Depth to bedrock Slope	1.00 0.08	Very limited Thin layer Content of large stones	1.00 0.22	Very limited Depth to water	1.00
133: Buckbay-----	35	Somewhat limited Seepage Depth to bedrock Slope	0.72 0.13 0.12	Somewhat limited Thin layer	0.88	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Orhood-----	25	Very limited Depth to bedrock Slope	1.00 0.12	Very limited Thin layer Content of large stones	1.00 1.00	Very limited Depth to water	1.00
Devada-----	20	Very limited Depth to bedrock	1.00	Very limited Thin layer Content of large stones	1.00 0.01	Very limited Depth to water	1.00
134: Buckbay-----	40	Somewhat limited Seepage Depth to bedrock Slope	0.72 0.13 0.08	Somewhat limited Thin layer	0.88	Very limited Depth to water	1.00
Orhood-----	25	Very limited Depth to bedrock Slope	1.00 0.08	Very limited Thin layer Content of large stones	1.00 1.00	Very limited Depth to water	1.00
Fredonyer-----	20	Somewhat limited Depth to bedrock Seepage Slope	0.91 0.72 0.08	Somewhat limited Thin layer Content of large stones	0.91 0.25	Very limited Depth to water	1.00
135: Bucklake-----	30	Somewhat limited Depth to bedrock Slope	0.98 0.88	Somewhat limited Thin layer	0.98	Very limited Depth to water	1.00
Corral-----	30	Somewhat limited Slope Depth to bedrock	0.88 0.78	Very limited Thin layer Piping	1.00 0.88	Very limited Depth to water	1.00
Rubble land-----	25	Very limited Seepage	1.00	Not rated		Very limited Depth to water	1.00
136: Bunanch-----	90	Somewhat limited Slope Seepage	0.12 0.04	Somewhat limited Seepage	0.06	Very limited Depth to water	1.00
137: Cagwin-----	85	Very limited Seepage Slope Depth to bedrock	1.00 0.21 0.03	Somewhat limited Thin layer Seepage	0.66 0.10	Very limited Depth to water	1.00
138: Cagwin-----	85	Very limited Seepage Slope Depth to bedrock	1.00 0.88 0.03	Somewhat limited Thin layer Seepage	0.66 0.10	Very limited Depth to water	1.00
139: Calnat-----	90	Somewhat limited Seepage Depth to bedrock	0.72 0.17	Very limited Salinity Piping Thin layer	1.00 1.00 0.91	Very limited Depth to water	1.00
140: Calneva-----	85	Somewhat limited Seepage	0.04	Very limited Piping Salinity	1.00 1.00	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
141: Calneva-----	65	Somewhat limited Seepage	0.04	Very limited Piping Salinity	1.00 1.00	Very limited Depth to water	1.00
Playas, silty clay--	20	Not limited		Very limited Ponding Salinity Hard to pack	1.00 1.00 0.50	Very limited Depth to water	1.00
142: Calpine-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.05	Very limited Depth to water	1.00
143: Calpine-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
144: Calpine-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
145: Calpine-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.33	Very limited Depth to water	1.00
146: Indiano-----	50	Somewhat limited Depth to bedrock Seepage	0.93 0.04	Somewhat limited Thin layer	0.93	Very limited Depth to water	1.00
Chalco-----	30	Somewhat limited Depth to bedrock	0.66	Very limited Thin layer Hard to pack	1.00 0.21	Very limited Depth to water	1.00
147: Capona-----	55	Somewhat limited Seepage Depth to bedrock	0.72 0.52	Very limited Piping Thin layer	1.00 0.52	Very limited Depth to water	1.00
Rock outcrop-----	30	Not limited		Not rated		Not rated	
148: Cewat-----	80	Somewhat limited Depth to bedrock Seepage	1.00 0.72	Very limited Thin layer Seepage	1.00 0.25	Very limited Depth to water	1.00
149: Cewat-----	35	Somewhat limited Depth to bedrock Seepage	1.00 0.72	Very limited Thin layer Seepage	1.00 0.25	Very limited Depth to water	1.00
McConnel-----	35	Very limited Seepage	1.00	Very limited Salinity Seepage Piping	1.00 0.50 0.22	Very limited Depth to water	1.00
Toulon-----	15	Very limited Seepage	1.00	Somewhat limited Seepage Piping	0.12 0.10	Very limited Depth to water	1.00
150: Chappuis-----	80	Somewhat limited Seepage	0.72	Very limited Salinity Piping	1.00 1.00	Very limited Salty water Depth to water Slow refill Cutbanks cave	1.00 0.96 0.28 0.10

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
151: Chappuis-----	85	Somewhat limited Seepage	0.72	Very limited Salinity Piping	1.00 1.00	Very limited Salty water Depth to water Slow refill Cutbanks cave	1.00 0.96 0.28 0.10
152: Chimney-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.11	Very limited Depth to water	1.00
153: Chimney-----	85	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
154: Chimney-----	35	Very limited Seepage Slope	1.00 0.88	Somewhat limited Seepage	0.11	Very limited Depth to water	1.00
Janile-----	35	Very limited Seepage Slope Depth to bedrock	1.00 0.88 0.30	Somewhat limited Thin layer Seepage	0.98 0.10	Very limited Depth to water	1.00
Waterman-----	15	Very limited Depth to bedrock Slope	1.00 0.64	Very limited Thin layer Seepage	1.00 0.14	Very limited Depth to water	1.00
155: Chimney-----	40	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
Janile-----	30	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.30	Somewhat limited Thin layer Seepage	0.98 0.10	Very limited Depth to water	1.00
Waterman-----	15	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Thin layer Seepage	1.00 0.14	Very limited Depth to water	1.00
156: Chimney-----	65	Very limited Seepage Slope	1.00 0.21	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
Waterman-----	20	Very limited Depth to bedrock Slope	1.00 0.01	Very limited Thin layer Seepage	1.00 0.14	Very limited Depth to water	1.00
157: Chirpchatter-----	85	Somewhat limited Seepage	0.72	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
158: Cleghorn-----	90	Somewhat limited Seepage	0.72	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
159: Cleghorn-----	85	Somewhat limited Seepage	0.72	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
160: Cochran-----	85	Very limited Seepage	1.00	Somewhat limited Seepage Content of large stones	0.38 0.02	Very limited Depth to water	1.00
161: Cochran-----	90	Very limited Seepage	1.00	Somewhat limited Content of large stones Seepage	0.61 0.25	Very limited Depth to water	1.00
162: Corral-----	85	Somewhat limited Depth to bedrock	0.50	Very limited Thin layer Piping	1.00 0.98	Very limited Depth to water	1.00
163: Corral-----	85	Somewhat limited Depth to bedrock	0.50	Very limited Thin layer Piping	1.00 0.98	Very limited Depth to water	1.00
164: Corral-----	90	Somewhat limited Depth to bedrock	0.78	Very limited Thin layer Piping	1.00 0.99	Very limited Depth to water	1.00
165: Corral-----	85	Somewhat limited Slope Depth to bedrock	0.88 0.78	Very limited Thin layer Piping	1.00 0.88	Very limited Depth to water	1.00
166: Corral-----	85	Somewhat limited Depth to bedrock Slope	0.78 0.08	Very limited Thin layer Piping	1.00 0.88	Very limited Depth to water	1.00
167: Corral-----	50	Somewhat limited Depth to bedrock	0.50	Very limited Thin layer Piping	1.00 0.98	Very limited Depth to water	1.00
Chalco-----	35	Somewhat limited Depth to bedrock	0.66	Very limited Thin layer Hard to pack	1.00 0.21	Very limited Depth to water	1.00
168: Corral-----	60	Somewhat limited Depth to bedrock Slope	0.78 0.50	Very limited Thin layer Piping	1.00 0.88	Very limited Depth to water	1.00
Glenbrook-----	20	Somewhat limited Depth to bedrock Slope	0.78 0.50	Very limited Thin layer Seepage	1.00 0.10	Very limited Depth to water	1.00
169: Devada-----	50	Very limited Depth to bedrock	1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Brubeck-----	45	Very limited Seepage Depth to bedrock	1.00 0.81	Somewhat limited Thin layer Hard to pack	0.81 0.72	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
170: Devada-----	35	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Bucklake-----	35	Somewhat limited Depth to bedrock Slope	0.98 0.12	Somewhat limited Thin layer	0.98	Very limited Depth to water	1.00
171: Devada-----	40	Very limited Depth to cemented pan Slope	1.00 0.50	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Fivesprings-----	25	Somewhat limited Depth to bedrock Slope	0.99 0.88	Somewhat limited Thin layer	0.99	Very limited Depth to water	1.00
Rubble land-----	20	Very limited Seepage	1.00	Not rated		Very limited Depth to water	1.00
172: Devada-----	60	Very limited Depth to bedrock Slope	1.00 0.12	Very limited Thin layer Content of large stones	1.00 0.17	Very limited Depth to water	1.00
Gavel-----	35	Somewhat limited Seepage Depth to bedrock Slope	0.72 0.20 0.12	Somewhat limited Thin layer	0.94	Very limited Depth to water	1.00
173: Devada-----	40	Very limited Depth to bedrock	1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Gavel-----	25	Somewhat limited Seepage Slope Depth to bedrock	0.72 0.21 0.20	Somewhat limited Thin layer	0.94	Very limited Depth to water	1.00
Whitinger-----	15	Somewhat limited Depth to bedrock Slope Seepage	0.95 0.21 0.04	Very limited Content of large stones Thin layer	0.99 0.95	Very limited Depth to water	1.00
174: Devada-----	35	Very limited Depth to bedrock Slope	1.00 0.88	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Glean-----	30	Very limited Seepage Slope Depth to bedrock	1.00 0.88 0.29	Somewhat limited Thin layer Seepage	0.29 0.06	Very limited Depth to water	1.00
Sumine-----	20	Somewhat limited Slope Depth to bedrock Seepage	0.88 0.74 0.72	Somewhat limited Thin layer Content of large stones	0.74 0.13	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
175: Devada-----	60	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Longcreek-----	30	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Thin layer Content of large stones Hard to pack	1.00 0.92 0.06	Very limited Depth to water	1.00
176: Devada-----	30	Very limited Depth to bedrock	1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Orhood-----	30	Very limited Depth to bedrock Slope	1.00 0.08	Very limited Thin layer Content of large stones	1.00 1.00	Very limited Depth to water	1.00
Hart Camp-----	25	Somewhat limited Depth to bedrock Slope	0.61 0.12	Very limited Thin layer	1.00	Very limited Depth to water	1.00
177: Devada-----	40	Very limited Depth to bedrock Slope	1.00 0.88	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Papeek-----	30	Somewhat limited Slope Depth to bedrock Seepage	0.88 0.06 0.04	Somewhat limited Thin layer	0.77	Very limited Depth to water	1.00
Gavel-----	20	Somewhat limited Slope Seepage Depth to bedrock	0.88 0.72 0.20	Somewhat limited Thin layer	0.94	Very limited Depth to water	1.00
178: Devada-----	40	Very limited Depth to bedrock	1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Petescreek-----	25	Somewhat limited Seepage Slope Depth to bedrock	0.72 0.21 0.19	Somewhat limited Thin layer	0.93	Very limited Depth to water	1.00
Fiddler-----	20	Somewhat limited Depth to bedrock Slope	0.99 0.08	Very limited Content of large stones Thin layer Hard to pack	1.00 0.99 0.01	Very limited Depth to water	1.00
179: Devada-----	70	Very limited Depth to bedrock Slope	1.00 0.32	Very limited Thin layer Content of large stones	1.00 0.01	Very limited Depth to water	1.00
Rock outcrop-----	20	Somewhat limited		Not rated		Not rated	
180: Dotta-----	95	Very limited Seepage	1.00	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
181: Dotta-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.03	Very limited Cutbanks cave Depth to water	1.00 0.90
182: Dryvalley-----	90	Very limited Seepage	1.00	Very limited Ponding Depth to saturated zone Piping Seepage	1.00 1.00 0.65 0.10	Very limited Cutbanks cave	1.00
183: Dryvalley-----	75	Somewhat limited Seepage	0.04	Very limited Ponding Depth to saturated zone	1.00 1.00	Somewhat limited Slow refill Cutbanks cave Salty water	0.96 0.10 0.01
Playas, silty clay--	15	Not limited		Very limited Ponding Salinity Hard to pack	1.00 1.00 0.50	Very limited Depth to water	1.00
184: Eaglelake-----	85	Somewhat limited Seepage Depth to bedrock	0.04 0.01	Somewhat limited Thin layer	0.03	Very limited Depth to water	1.00
185: Eaglelake-----	50	Somewhat limited Slope Seepage Depth to bedrock	0.12 0.04 0.01	Somewhat limited Thin layer	0.03	Very limited Depth to water	1.00
Outland-----	25	Somewhat limited Seepage Slope Depth to bedrock	0.72 0.12 0.03	Somewhat limited Thin layer Seepage Content of large stones	0.66 0.25 0.03	Very limited Depth to water	1.00
Weste-----	15	Somewhat limited Depth to bedrock Seepage Slope	0.98 0.72 0.12	Somewhat limited Thin layer Content of large stones Seepage	0.98 0.08 0.04	Very limited Depth to water	1.00
186: Eaglelake-----	45	Somewhat limited Slope Seepage Depth to bedrock	0.88 0.04 0.01	Somewhat limited Thin layer	0.03	Very limited Depth to water	1.00
Outland-----	25	Somewhat limited Slope Seepage Depth to bedrock	0.88 0.72 0.03	Somewhat limited Thin layer Seepage Content of large stones	0.66 0.25 0.03	Very limited Depth to water	1.00
Weste-----	15	Somewhat limited Depth to bedrock Slope Seepage	0.98 0.88 0.72	Somewhat limited Thin layer Content of large stones Seepage	0.98 0.08 0.04	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
187: Eaglelake-----	45	Somewhat limited Slope Seepage Depth to bedrock	0.12 0.04 0.01	Somewhat limited Thin layer	0.34	Very limited Depth to water	1.00
Outland-----	25	Very limited Seepage Depth to bedrock Slope	1.00 0.30 0.08	Somewhat limited Thin layer Content of large stones Seepage	0.98 0.12 0.03	Very limited Depth to water	1.00
Weste-----	15	Somewhat limited Depth to bedrock Seepage Slope	0.98 0.72 0.12	Somewhat limited Thin layer Content of large stones	0.98 0.05	Very limited Depth to water	1.00
188: Eaglelake-----	45	Somewhat limited Slope Seepage Depth to bedrock	0.88 0.04 0.01	Somewhat limited Thin layer	0.34	Very limited Depth to water	1.00
Outland-----	25	Very limited Seepage Slope Depth to bedrock	1.00 0.88 0.30	Somewhat limited Thin layer Content of large stones Seepage	0.98 0.12 0.03	Very limited Depth to water	1.00
Weste-----	15	Somewhat limited Depth to bedrock Slope Seepage	0.98 0.88 0.72	Somewhat limited Thin layer Content of large stones	0.98 0.05	Very limited Depth to water	1.00
189: Easte-----	55	Very limited Seepage Slope Depth to bedrock	1.00 0.88 0.01	Somewhat limited Seepage Thin layer	0.38 0.01	Very limited Depth to water	1.00
Fredonyer-----	30	Somewhat limited Depth to bedrock Slope Seepage	0.91 0.88 0.72	Somewhat limited Thin layer Content of large stones	0.91 0.25	Very limited Depth to water	1.00
190: Easte-----	50	Very limited Seepage Slope Depth to bedrock	1.00 0.08 0.01	Somewhat limited Seepage Thin layer	0.38 0.34	Very limited Depth to water	1.00
Roop-----	35	Very limited Seepage Depth to bedrock Slope	1.00 0.66 0.08	Somewhat limited Thin layer	0.66	Very limited Depth to water	1.00
191: Easte-----	50	Very limited Seepage Slope Depth to bedrock	1.00 0.88 0.01	Somewhat limited Seepage Thin layer	0.38 0.37	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Roop-----	40	Very limited Seepage Slope Depth to bedrock	1.00 0.88 0.66	Somewhat limited Thin layer	0.66	Very limited Depth to water	1.00
192: Epot-----	55	Very limited Seepage	1.00	Very limited Salinity Piping Seepage	1.00 1.00 0.08	Very limited Depth to water	1.00
Playas, silty clay--	15	Not limited		Very limited Ponding Salinity Hard to pack	1.00 1.00 0.50	Very limited Depth to water	1.00
193: Epot-----	40	Very limited Seepage	1.00	Very limited Salinity Piping Seepage	1.00 1.00 0.08	Very limited Depth to water	1.00
Ragtown-----	30	Not limited		Somewhat limited Piping	0.10	Very limited Depth to water	1.00
Playas, silty clay--	20	Not limited		Very limited Ponding Salinity Hard to pack	1.00 1.00 0.50	Very limited Depth to water	1.00
194: Fiddler-----	35	Somewhat limited Depth to bedrock Slope	0.99 0.08	Very limited Content of large stones Thin layer Hard to pack	1.00 0.99 0.01	Very limited Depth to water	1.00
Gavel-----	30	Somewhat limited Seepage Depth to bedrock Slope	0.72 0.20 0.08	Somewhat limited Thin layer	0.94	Very limited Depth to water	1.00
Rubble land-----	15	Very limited Seepage	1.00	Not rated		Very limited Depth to water	1.00
195: Fiddler-----	40	Somewhat limited Depth to bedrock Slope	0.99 0.88	Very limited Content of large stones Thin layer Hard to pack	1.00 0.99 0.01	Very limited Depth to water	1.00
Gavel-----	25	Somewhat limited Slope Seepage Depth to bedrock	0.88 0.72 0.20	Somewhat limited Thin layer	0.94	Very limited Depth to water	1.00
Rubble land-----	15	Very limited Seepage	1.00	Not rated		Very limited Depth to water	1.00
196: Fiddler-----	45	Somewhat limited Depth to bedrock Slope	0.99 0.08	Very limited Content of large stones Thin layer Hard to pack	1.00 0.99 0.01	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Madeline-----	35	Very limited Depth to bedrock Slope	1.00 0.08	Very limited Thin layer	1.00	Very limited Depth to water	1.00
197: Fiddler-----	30	Somewhat limited Depth to bedrock Slope	0.99 0.21	Very limited Content of large stones Thin layer Hard to pack	1.00 0.99 0.01	Very limited Depth to water	1.00
Orhood-----	30	Very limited Depth to bedrock	1.00	Very limited Thin layer Content of large stones	1.00 1.00	Very limited Depth to water	1.00
Petescreek-----	25	Somewhat limited Seepage Depth to bedrock Slope	0.72 0.19 0.12	Somewhat limited Thin layer	0.93	Very limited Depth to water	1.00
198: Fivesprings-----	50	Somewhat limited Depth to bedrock Slope	0.99 0.12	Somewhat limited Thin layer	0.99	Very limited Depth to water	1.00
Longcreek-----	35	Very limited Depth to bedrock Slope	1.00 0.12	Very limited Thin layer Content of large stones Hard to pack	1.00 0.58 0.06	Very limited Depth to water	1.00
199: Fivesprings-----	50	Somewhat limited Depth to bedrock Slope	0.99 0.88	Somewhat limited Thin layer	0.99	Very limited Depth to water	1.00
Longcreek-----	40	Very limited Depth to bedrock Slope	1.00 0.88	Very limited Thin layer Content of large stones Hard to pack	1.00 0.58 0.06	Very limited Depth to water	1.00
200: Fivesprings-----	40	Somewhat limited Depth to bedrock Slope	0.99 0.88	Somewhat limited Thin layer	0.99	Very limited Depth to water	1.00
Longcreek-----	25	Very limited Depth to bedrock Slope	1.00 0.12	Very limited Thin layer Content of large stones Hard to pack	1.00 0.58 0.06	Very limited Depth to water	1.00
Rubble land-----	20	Very limited Seepage	1.00	Not rated		Very limited Depth to water	1.00
201: Fivesprings-----	40	Somewhat limited Depth to bedrock Slope	0.99 0.12	Somewhat limited Thin layer	0.99	Very limited Depth to water	1.00
Rubble land-----	25	Very limited Seepage	1.00	Not rated		Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Devada-----	20	Very limited Depth to bedrock Slope	1.00 0.08	Very limited Thin layer	1.00	Very limited Depth to water	1.00
202: Fivesprings-----	50	Somewhat limited Depth to bedrock Slope	0.99 0.21	Somewhat limited Thin layer	0.99	Very limited Depth to water	1.00
Sumine-----	35	Somewhat limited Slope Depth to bedrock Seepage	0.88 0.74 0.02	Somewhat limited Thin layer Content of large stones	0.74 0.01	Very limited Depth to water	1.00
203: Fluents-----	70	Very limited Seepage	1.00	Somewhat limited Seepage	0.09	Very limited Cutbanks cave Depth to water	1.00 0.81
Riverwash-----	20	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.70	Very limited Cutbanks cave	1.00
204: Fordney-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.13	Very limited Depth to water	1.00
205: Fordney-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.13	Very limited Depth to water	1.00
206: Fordney-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.08	Very limited Cutbanks cave Depth to water	1.00 0.90
207: Forgay-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.56	Very limited Cutbanks cave Depth to water	1.00 0.90
208: Forgay-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.56	Very limited Depth to water	1.00
209: Fortsage-----	90	Very limited Seepage	1.00	Not limited		Somewhat limited Depth to water Cutbanks cave	0.87 0.10
210: Fortsage-----	90	Very limited Seepage	1.00	Very limited Piping	1.00	Somewhat limited Depth to water Cutbanks cave	0.87 0.10
211: Fraval-----	40	Somewhat limited Seepage Slope Depth to bedrock	0.72 0.12 0.05	Somewhat limited Thin layer	0.74	Very limited Depth to water	1.00
Fredonyer-----	25	Somewhat limited Depth to bedrock Seepage Slope	0.91 0.72 0.12	Somewhat limited Thin layer Content of large stones	0.91 0.25	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Said-----	20	Somewhat limited Seepage Slope Depth to bedrock	0.72 0.12 0.01	Somewhat limited Thin layer	0.01	Very limited Depth to water	1.00
212: Fraval-----	60	Somewhat limited Seepage Slope Depth to bedrock	0.72 0.08 0.05	Not rated Not rated; Fragments > 75mm Thin layer	0.74	Not rated Not rated; Fragments > 75mm Depth to water	1.00
Said-----	30	Somewhat limited Seepage Slope Depth to bedrock	0.72 0.08 0.01	Somewhat limited Thin layer	0.01	Very limited Depth to water	1.00
213: Fredonyer-----	45	Somewhat limited Depth to bedrock Slope Seepage	0.91 0.88 0.72	Somewhat limited Thin layer Content of large stones	0.91 0.25	Very limited Depth to water	1.00
Whitinger-----	25	Somewhat limited Depth to bedrock Slope Seepage	0.95 0.88 0.04	Very limited Content of large stones Thin layer	0.99 0.95	Very limited Depth to water	1.00
Orhood-----	15	Very limited Depth to bedrock Slope	1.00 0.88	Very limited Thin layer Content of large stones	1.00 1.00	Very limited Depth to water	1.00
214: Fulstone-----	70	Very limited Depth to cemented pan	1.00	Very limited Thin layer Hard to pack	1.00 0.13	Very limited Depth to water	1.00
Wylo-----	20	Very limited Depth to bedrock Slope	1.00 0.12	Very limited Thin layer	1.00	Very limited Depth to water	1.00
215: Galeppi-----	80	Somewhat limited Seepage	0.72	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
216: Galeppi-----	80	Somewhat limited Seepage Slope	0.72 0.08	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
217: Galeppi-----	65	Somewhat limited Seepage	0.72	Somewhat limited Seepage	0.11	Very limited Depth to water	1.00
Glenbrook-----	15	Somewhat limited Depth to bedrock	0.78	Very limited Thin layer Seepage	1.00 0.10	Very limited Depth to water	1.00
218: Gavel-----	85	Somewhat limited Seepage Depth to bedrock Slope	0.72 0.22 0.08	Somewhat limited Thin layer	0.94	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
219: Gavel-----	55	Somewhat limited Slope Seepage Depth to bedrock	0.88 0.72 0.19	Somewhat limited Thin layer Content of large stones	0.93 0.18	Very limited Depth to water	1.00
Devada-----	35	Very limited Depth to bedrock Slope	1.00 0.88	Very limited Thin layer Content of large stones	1.00 0.01	Very limited Depth to water	1.00
220: Gerlach-----	80	Not limited		Somewhat limited Hard to pack	0.69	Very limited Depth to water	1.00
221: Gerlach-----	80	Not limited		Somewhat limited Hard to pack	0.69	Very limited Depth to water	1.00
222: Gerlach-----	45	Not limited		Somewhat limited Hard to pack	0.69	Very limited Depth to water	1.00
Ravendale-----	40	Not limited		Somewhat limited Hard to pack	0.68	Very limited Depth to water	1.00
223: Gerle-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
224: Gerle-----	85	Very limited Seepage Slope	1.00 0.88	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
225: Gerle-----	50	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
Gerle-----	25	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
Gerle-----	15	Very limited Seepage Slope	1.00 0.88	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
226: Glean-----	90	Very limited Seepage Depth to bedrock Slope	1.00 0.29 0.08	Somewhat limited Thin layer Seepage	0.29 0.06	Very limited Depth to water	1.00
227: Glean-----	85	Very limited Seepage Slope Depth to bedrock	1.00 0.88 0.29	Somewhat limited Thin layer Seepage	0.29 0.06	Very limited Depth to water	1.00
228: Glean-----	55	Somewhat limited Slope Depth to bedrock Seepage	0.88 0.29 0.02	Somewhat limited Thin layer Seepage	0.29 0.06	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Searles-----	30	Somewhat limited Depth to bedrock	0.88	Somewhat limited Content of large stones	0.98	Very limited Depth to water	1.00
		Slope	0.88	Thin layer	0.88		
		Seepage	0.04	Seepage	0.25		
229: Glenbrook-----	40	Somewhat limited Slope	0.97	Very limited Thin layer	1.00	Very limited Depth to water	1.00
		Depth to bedrock	0.78	Seepage	0.10		
Graufels-----	30	Very limited Seepage	1.00	Very limited Thin layer	0.99	Very limited Depth to water	1.00
		Slope	0.97	Seepage	0.64		
		Depth to bedrock	0.37				
Rock outcrop-----	15	Somewhat limited		Not rated		Not rated	
230: Graufels-----	50	Very limited Seepage	1.00	Very limited Thin layer	0.99	Very limited Depth to water	1.00
		Depth to bedrock	0.37	Seepage	0.64		
		Slope	0.08				
Glenbrook-----	35	Somewhat limited Depth to bedrock	0.78	Very limited Thin layer	1.00	Very limited Depth to water	1.00
		Slope	0.08	Seepage	0.30		
231: Hagata-----	60	Very limited Seepage	1.00	Very limited Thin layer	0.99	Very limited Depth to water	1.00
		Depth to bedrock	0.37	Hard to pack	0.01		
Playas-----	30	Not limited		Very limited Ponding	1.00	Very limited Depth to water	1.00
				Salinity	1.00		
				Hard to pack	0.50		
232: Hangtown-----	75	Very limited Seepage	1.00	Somewhat limited Seepage	0.25	Very limited Depth to water	1.00
		Slope	0.88	Thin layer	0.01		
		Depth to bedrock	0.01				
233: Hart Camp-----	40	Somewhat limited Depth to bedrock	0.61	Very limited Thin layer	1.00	Very limited Depth to water	1.00
		Slope	0.01				
Devada-----	30	Very limited Depth to bedrock	1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Tunnison-----	15	Somewhat limited Depth to bedrock	0.56	Very limited Hard to pack	1.00	Very limited Depth to water	1.00
				Thin layer	0.83		
234: Hart Camp-----	50	Somewhat limited Depth to bedrock	0.61	Very limited Thin layer	1.00	Very limited Depth to water	1.00
		Slope	0.01				
Madeline-----	35	Very limited Depth to bedrock	1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
		Slope	0.01				

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
235: Haypress-----	60	Very limited Seepage Slope Depth to bedrock	1.00 0.88 0.01	Somewhat limited Thin layer Seepage	0.37 0.11	Very limited Depth to water	1.00
Tanob-----	20	Very limited Seepage Depth to bedrock Slope	1.00 0.23 0.21	Somewhat limited Thin layer Seepage	0.95 0.04	Very limited Depth to water	1.00
236: Herjun-----	85	Very limited Seepage	1.00	Very limited Piping Salinity Seepage	1.00 0.50 0.04	Very limited Cutbanks cave Depth to water Salty water	1.00 0.92 0.78
237: Herjun-----	80	Somewhat limited Seepage	0.72	Very limited Piping Salinity Seepage	1.00 0.50 0.04	Somewhat limited Depth to water Salty water Slow refill Cutbanks cave	0.92 0.78 0.28 0.10
238: Highrock, loamy fine sand-----	40	Somewhat limited Seepage	0.72	Very limited Salinity Piping	1.00 1.00	Very limited Depth to water	1.00
Mazuma-----	25	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.03	Very limited Depth to water	1.00
Wespac-----	20	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.50	Very limited Depth to water	1.00
239: Highrock, loamy fine sand-----	45	Somewhat limited Seepage	0.72	Very limited Salinity Piping	1.00 1.00	Very limited Depth to water	1.00
Wespac, fine sandy loam-----	25	Somewhat limited Seepage	0.72	Very limited Piping Salinity	1.00 0.50	Very limited Depth to water	1.00
Zorravista, loamy sand-----	20	Very limited Seepage	1.00	Somewhat limited Seepage	0.34	Very limited Depth to water	1.00
240: Home Camp-----	65	Somewhat limited Depth to bedrock Seepage	0.91 0.04	Somewhat limited Thin layer	0.91	Very limited Depth to water	1.00
Newlands-----	20	Somewhat limited Depth to bedrock Slope Seepage	0.33 0.12 0.04	Somewhat limited Piping Thin layer	0.80 0.34	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
241: Honlak-----	80	Very limited Seepage	1.00	Very limited Salinity Piping Depth to saturated zone Seepage	1.00 1.00 0.95 0.21	Very limited Salty water Cutbanks cave Depth to water	1.00 0.10 0.02
242: Horsecamp-----	85	Somewhat limited Depth to bedrock	0.22	Somewhat limited Hard to pack Thin layer	0.64 0.22	Very limited Depth to water	1.00
243: Horsecamp-----	45	Somewhat limited Depth to bedrock	0.22	Somewhat limited Hard to pack Thin layer	0.64 0.22	Very limited Depth to water	1.00
Brubeck-----	40	Very limited Seepage Depth to bedrock	1.00 0.81	Somewhat limited Thin layer Hard to pack	0.81 0.72	Very limited Depth to water	1.00
244: Horsecamp-----	45	Somewhat limited Depth to bedrock	0.10	Somewhat limited Hard to pack Thin layer	0.49 0.11	Very limited Depth to water	1.00
Hunnton-----	40	Somewhat limited Depth to cemented pan	0.99	Very limited Thin layer Hard to pack	0.99 0.11	Very limited Depth to water	1.00
245: Horsecamp, cobbly clay-----	55	Somewhat limited Depth to bedrock	0.37	Somewhat limited Hard to pack Thin layer	0.65 0.37	Very limited Depth to water	1.00
Mahala-----	35	Somewhat limited Depth to bedrock	0.03	Somewhat limited Thin layer Hard to pack	0.66 0.21	Very limited Depth to water	1.00
246: Humboldt-----	80	Somewhat limited Seepage	0.04	Somewhat limited Hard to pack	0.03	Very limited Depth to water	1.00
247: Humboldt-----	80	Somewhat limited Seepage	0.04	Somewhat limited Depth to saturated zone Hard to pack	0.95 0.01	Somewhat limited Slow refill Cutbanks cave Depth to water	0.96 0.10 0.02
248: Humboldt-----	85	Somewhat limited Seepage	0.04	Very limited Ponding Depth to saturated zone Hard to pack	1.00 0.95 0.01	Somewhat limited Slow refill Cutbanks cave Depth to water	0.96 0.10 0.02
249: Humboldt-----	85	Somewhat limited Seepage	0.54	Very limited Depth to saturated zone Salinity Hard to pack	1.00 1.00 1.00	Very limited Salty water Slow refill Cutbanks cave	1.00 0.46 0.10

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
250: Hunnton-----	55	Somewhat limited Depth to cemented pan	0.99	Very limited Thin layer Hard to pack	0.99 0.07	Very limited Depth to water	1.00
Shinnpeak-----	30	Very limited Depth to cemented pan	1.00	Very limited Thin layer Seepage	1.00 0.06	Very limited Depth to water	1.00
251: Incy-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.34	Very limited Depth to water	1.00
252: Incy-----	85	Very limited Seepage Slope	1.00 0.08	Somewhat limited Seepage	0.34	Very limited Depth to water	1.00
253: Indiano-----	55	Somewhat limited Depth to bedrock Slope Seepage	0.56 0.21 0.04	Somewhat limited Thin layer	0.56	Very limited Depth to water	1.00
Graufels-----	30	Very limited Seepage Depth to bedrock Slope	1.00 0.37 0.21	Very limited Thin layer Seepage	0.99 0.13	Very limited Depth to water	1.00
254: Indiano-----	45	Somewhat limited Depth to bedrock Slope Seepage	0.93 0.08 0.04	Somewhat limited Piping Thin layer	0.94 0.93	Very limited Depth to water	1.00
Searles-----	35	Somewhat limited Depth to bedrock Slope Seepage	0.88 0.08 0.04	Somewhat limited Content of large stones Thin layer Seepage	0.98 0.88 0.25	Very limited Depth to water	1.00
255: Indiano-----	55	Somewhat limited Depth to bedrock Slope Seepage	0.93 0.88 0.04	Somewhat limited Thin layer Piping	0.93 0.85	Very limited Depth to water	1.00
Searles-----	35	Somewhat limited Slope Depth to bedrock Seepage	0.88 0.85 0.04	Somewhat limited Content of large stones Thin layer Seepage	0.94 0.85 0.25	Very limited Depth to water	1.00
256: Indiano-----	45	Somewhat limited Depth to bedrock Slope Seepage	0.93 0.88 0.04	Somewhat limited Thin layer	0.93	Very limited Depth to water	1.00
Zephan-----	30	Very limited Seepage Slope Depth to bedrock	1.00 0.88 0.22	Somewhat limited Thin layer	0.37	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Duco-----	15	Very limited Depth to bedrock Slope	1.00 0.88	Very limited Thin layer Seepage	1.00 0.06	Very limited Depth to water	1.00
257: Inville-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.16	Very limited Depth to water	1.00
258: Jauriga-----	85	Somewhat limited Seepage Depth to bedrock	0.72 0.01	Somewhat limited Thin layer	0.13	Very limited Depth to water	1.00
259: Jauriga-----	40	Somewhat limited Seepage Depth to bedrock	0.72 0.01	Somewhat limited Thin layer	0.13	Very limited Depth to water	1.00
Buckbay-----	25	Somewhat limited Seepage Depth to bedrock	0.72 0.13	Somewhat limited Thin layer	0.88	Very limited Depth to water	1.00
Fredonyer-----	20	Somewhat limited Depth to bedrock Seepage Slope	0.91 0.72 0.21	Somewhat limited Thin layer Content of large stones	0.91 0.25	Very limited Depth to water	1.00
260: Keddie-----	95	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping Seepage	1.00 1.00 0.19	Very limited Cutbanks cave	1.00
261: Keddie-----	85	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping	0.84 0.54	Somewhat limited Slow refill Cutbanks cave Depth to water	0.28 0.10 0.07
262: Ladd-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.04	Somewhat limited Depth to water Cutbanks cave	0.90 0.10
263: Ladd-----	70	Very limited Seepage	1.00	Somewhat limited Seepage	0.04	Somewhat limited Depth to water Cutbanks cave	0.90 0.10
Bieber-----	20	Very limited Depth to cemented pan	1.00	Very limited Thin layer Hard to pack	1.00 0.01	Very limited Depth to water	1.00
264: Lakeview-----	85	Somewhat limited Seepage	0.04	Somewhat limited Piping Depth to saturated zone	0.98 0.02	Somewhat limited Slow refill Depth to water Cutbanks cave	0.96 0.68 0.10

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
265: Lakeview-----	85	Somewhat limited Seepage	0.04	Somewhat limited Piping Depth to saturated zone	0.98 0.02	Somewhat limited Slow refill Depth to water Cutbanks cave	0.96 0.68 0.10
266: Lasco-----	90	Very limited Seepage Depth to bedrock	1.00 0.01	Somewhat limited Thin layer Seepage	0.13 0.03	Very limited Depth to water	1.00
267: Lasco-----	95	Very limited Seepage Slope Depth to bedrock	1.00 0.88 0.01	Somewhat limited Thin layer Seepage	0.13 0.03	Very limited Depth to water	1.00
268: Lasco-----	90	Very limited Seepage Slope Depth to bedrock	1.00 0.21 0.01	Somewhat limited Thin layer Seepage	0.13 0.03	Very limited Depth to water	1.00
269: Lasco-----	65	Very limited Seepage Slope Depth to bedrock	1.00 0.21 0.01	Somewhat limited Thin layer Seepage	0.13 0.03	Very limited Depth to water	1.00
Bonta-----	25	Very limited Seepage Slope Depth to bedrock	1.00 0.21 0.03	Somewhat limited Thin layer Seepage	0.66 0.05	Very limited Depth to water	1.00
270: Lieberman-----	85	Very limited Seepage	1.00	Very limited Piping Seepage Salinity	1.00 0.50 0.12	Very limited Depth to water	1.00
271: Lieberman-----	50	Very limited Seepage	1.00	Very limited Piping Seepage Salinity	1.00 0.50 0.12	Very limited Depth to water	1.00
Herlong-----	35	Very limited Depth to bedrock Seepage	1.00 0.72	Very limited Piping Thin layer Salinity	1.00 1.00 0.28	Very limited Depth to water	1.00
272: Lodico-----	85	Somewhat limited Depth to bedrock	0.99	Somewhat limited Thin layer Hard to pack	0.99 0.24	Very limited Depth to water	1.00
273: Longcreek-----	35	Very limited Depth to bedrock Slope	1.00 0.12	Very limited Thin layer Content of large stones Hard to pack	1.00 0.67 0.06	Very limited Depth to water	1.00
Devada-----	30	Very limited Depth to bedrock Slope	1.00 0.12	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Rubble land-----	20	Very limited Seepage	1.00	Not rated		Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
274: Longcreek-----	35	Very limited Depth to bedrock Slope	1.00 0.88	Very limited Thin layer Content of large stones Hard to pack	1.00 0.67 0.06	Very limited Depth to water	1.00
Devada-----	30	Very limited Depth to bedrock Slope	1.00 0.88	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Rubble land-----	20	Very limited Seepage	1.00	Not rated		Very limited Depth to water	1.00
275: Loomis-----	85	Very limited Depth to bedrock Slope	1.00 0.08	Very limited Thin layer Content of large stones	1.00 0.22	Very limited Depth to water	1.00
276: Loomis-----	55	Very limited Depth to bedrock	1.00	Very limited Thin layer Content of large stones	1.00 0.22	Very limited Depth to water	1.00
Fivesprings-----	30	Somewhat limited Depth to bedrock Slope	0.99 0.12	Somewhat limited Thin layer	0.99	Very limited Depth to water	1.00
277: Loomis-----	65	Very limited Depth to bedrock Slope	1.00 0.08	Very limited Thin layer Content of large stones	1.00 0.22	Very limited Depth to water	1.00
Rubble land-----	20	Very limited Seepage	1.00	Not rated		Very limited Depth to water	1.00
278: Madeline-----	35	Very limited Depth to bedrock Slope	1.00 0.21	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Glean-----	30	Very limited Seepage Slope Depth to bedrock	1.00 0.88 0.29	Somewhat limited Thin layer Seepage	0.29 0.06	Very limited Depth to water	1.00
Devada-----	20	Very limited Depth to bedrock Slope	1.00 0.12	Very limited Thin layer Content of large stones	1.00 0.01	Very limited Depth to water	1.00
279: Madeline-----	45	Very limited Depth to bedrock Slope	1.00 0.12	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Sumine-----	40	Somewhat limited Depth to bedrock Seepage Slope	0.98 0.72 0.03	Somewhat limited Thin layer Content of large stones	0.98 0.04	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
280: Massack-----	95	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.03	Very limited Cutbanks cave	1.00
281: Mazuma-----	80	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.03	Very limited Depth to water	1.00
282: Mazuma-----	85	Very limited Seepage	1.00	Very limited Piping Salinity Seepage	1.00 1.00 0.03	Very limited Depth to water	1.00
283: McConnel-----	60	Very limited Seepage	1.00	Very limited Salinity Seepage Piping	1.00 0.50 0.22	Very limited Depth to water	1.00
Mottsville-----	25	Very limited Seepage	1.00	Somewhat limited Seepage	0.33	Very limited Depth to water	1.00
284: McDermott-----	85	Somewhat limited Seepage	0.04	Very limited Piping	1.00	Very limited Depth to water	1.00
285: Modoc-----	70	Somewhat limited Depth to cemented pan Seepage	0.91 0.72	Somewhat limited Thin layer Seepage	0.91 0.03	Very limited Depth to water	1.00
Truax-----	20	Very limited Seepage	1.00	Somewhat limited Thin layer Seepage	0.42 0.09	Very limited Depth to water	1.00
286: Mottsville-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.33	Very limited Depth to water	1.00
287: Mottsville-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.33	Very limited Depth to water	1.00
288: Mottsville-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.33	Very limited Depth to water	1.00
289: Mottsville-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.33	Very limited Depth to water	1.00
290: Mottsville-----	85	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage	0.33	Very limited Depth to water	1.00
291: Mottsville-----	90	Very limited Seepage Slope	1.00 0.21	Somewhat limited Seepage	0.33	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
292: Mottsville-----	60	Very limited Seepage Slope	1.00 0.72	Somewhat limited Seepage	0.33	Very limited Depth to water	1.00
Galeppi-----	30	Somewhat limited Seepage Slope	0.72 0.72	Somewhat limited Seepage	0.11	Very limited Depth to water	1.00
293: Mountmed-----	85	Very limited Seepage	1.00	Very limited Depth to saturated zone	1.00	Very limited Cutbanks cave	1.00
294: Mountmed-----	85	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping	1.00 0.06	Very limited Cutbanks cave	1.00
295: Mountmed-----	90	Very limited Seepage	1.00	Very limited Ponding Depth to saturated zone Seepage	1.00 0.24 0.01	Somewhat limited Depth to water Cutbanks cave	0.38 0.10
296: Newlands-----	50	Somewhat limited Depth to bedrock Slope Seepage	0.33 0.08 0.04	Somewhat limited Piping Thin layer	0.80 0.34	Very limited Depth to water	1.00
Hapgood-----	40	Somewhat limited Seepage Depth to bedrock Slope	0.72 0.42 0.08	Somewhat limited Thin layer	0.42	Very limited Depth to water	1.00
297: Ninemile-----	45	Very limited Depth to bedrock	1.00	Very limited Thin layer Hard to pack	1.00 0.48	Very limited Depth to water	1.00
Home Camp-----	25	Somewhat limited Depth to bedrock Seepage Slope	0.91 0.04 0.03	Somewhat limited Thin layer	0.91	Very limited Depth to water	1.00
Newlands-----	20	Somewhat limited Depth to bedrock Seepage Slope	0.33 0.04 0.03	Somewhat limited Piping Thin layer	0.80 0.34	Very limited Depth to water	1.00
298: Ninemile-----	30	Very limited Depth to bedrock	1.00	Very limited Thin layer Hard to pack	1.00 0.48	Very limited Depth to water	1.00
Petescreek-----	30	Somewhat limited Seepage Depth to bedrock	0.72 0.19	Somewhat limited Thin layer	0.93	Very limited Depth to water	1.00
Fiddler-----	25	Somewhat limited Depth to bedrock Slope	0.99 0.12	Very limited Content of large stones Thin layer Hard to pack	1.00 0.99 0.01	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
299: Ninemile-----	50	Very limited Depth to bedrock	1.00	Very limited Thin layer Hard to pack	1.00 0.48	Very limited Depth to water	1.00
Weste-----	35	Somewhat limited Depth to bedrock Seepage	0.98 0.72	Somewhat limited Thin layer Seepage	0.98 0.06	Very limited Depth to water	1.00
300: Observation-----	35	Somewhat limited Depth to bedrock Slope	0.69 0.12	Somewhat limited Thin layer Piping	0.70 0.04	Very limited Depth to water	1.00
Searles-----	30	Somewhat limited Depth to bedrock Slope Seepage	0.88 0.12 0.04	Somewhat limited Content of large stones Thin layer Seepage	0.98 0.88 0.25	Very limited Depth to water	1.00
Madeline-----	20	Very limited Depth to bedrock Slope	1.00 0.12	Very limited Thin layer	1.00	Very limited Depth to water	1.00
301: Observation-----	35	Somewhat limited Slope Depth to bedrock	0.88 0.69	Somewhat limited Thin layer Piping	0.70 0.04	Very limited Depth to water	1.00
Searles-----	30	Somewhat limited Depth to bedrock Slope Seepage	0.88 0.88 0.04	Somewhat limited Content of large stones Thin layer Seepage	0.98 0.88 0.25	Very limited Depth to water	1.00
Madeline-----	20	Very limited Depth to bedrock Slope	1.00 0.88	Very limited Thin layer	1.00	Very limited Depth to water	1.00
302: Orhood-----	80	Very limited Depth to bedrock	1.00	Very limited Thin layer Content of large stones	1.00 1.00	Very limited Depth to water	1.00
303: Orr-----	85	Somewhat limited Seepage	0.70	Somewhat limited Seepage	0.07	Very limited Depth to water	1.00
304: Outland-----	75	Somewhat limited Slope Seepage Depth to bedrock	0.88 0.72 0.03	Somewhat limited Thin layer Content of large stones Seepage	0.66 0.47 0.25	Very limited Depth to water	1.00
305: Outland-----	60	Somewhat limited Seepage Depth to bedrock	0.72 0.03	Somewhat limited Thin layer Seepage	0.66 0.25	Very limited Depth to water	1.00
Outland-----	30	Somewhat limited Seepage Slope Depth to bedrock	0.72 0.12 0.03	Somewhat limited Thin layer Content of large stones Seepage	0.66 0.47 0.25	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
306: Outland-----	60	Somewhat limited Seepage Slope Depth to bedrock	0.72 0.21 0.03	Somewhat limited Thin layer Content of large stones Seepage	0.66 0.47 0.25	Very limited Depth to water	1.00
Penstock-----	25	Somewhat limited Seepage Slope	0.72 0.21	Not limited		Very limited Depth to water	1.00
307: Outland-----	60	Somewhat limited Slope Seepage Depth to bedrock	0.88 0.72 0.03	Somewhat limited Thin layer Content of large stones Seepage	0.66 0.47 0.25	Very limited Depth to water	1.00
Penstock-----	25	Somewhat limited Slope Seepage	0.88 0.72	Not limited		Very limited Depth to water	1.00
308: Papeek-----	85	Somewhat limited Slope Depth to bedrock Seepage	0.12 0.06 0.04	Somewhat limited Thin layer	0.78	Very limited Depth to water	1.00
309: Papeek-----	95	Somewhat limited Slope Depth to bedrock Seepage	0.88 0.06 0.04	Somewhat limited Thin layer	0.78	Very limited Depth to water	1.00
310: Penstock-----	65	Somewhat limited Seepage Slope	0.72 0.12	Not limited		Very limited Depth to water	1.00
Deadwood-----	25	Very limited Depth to bedrock Slope	1.00 0.12	Very limited Thin layer Seepage	1.00 0.31	Very limited Depth to water	1.00
311: Penstock-----	50	Somewhat limited Slope Seepage	0.88 0.72	Somewhat limited Content of large stones	0.01	Very limited Depth to water	1.00
Deadwood-----	20	Very limited Depth to bedrock Slope	1.00 0.88	Very limited Thin layer Seepage	1.00 0.31	Very limited Depth to water	1.00
Rock outcrop-----	15	Somewhat limited		Not rated		Not rated	
312: Penstock-----	50	Somewhat limited Seepage Slope	0.72 0.08	Not limited		Very limited Depth to water	1.00
Scaribou, stony loam	40	Somewhat limited Slope Seepage	0.08 0.04	Somewhat limited Content of large stones Seepage	0.14 0.06	Very limited Depth to water	1.00
313: Penstock-----	45	Somewhat limited Slope Seepage	0.88 0.72	Not limited		Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Scaribou, stony loam	40	Somewhat limited Slope	0.88	Somewhat limited Content of large stones	0.14	Very limited Depth to water	1.00
		Seepage	0.04	Seepage	0.06		
314: Pequop, very cobbly loam-----	55	Somewhat limited Slope	0.21	Somewhat limited Thin layer	0.11	Very limited Depth to water	1.00
		Depth to bedrock	0.10	Seepage	0.06		
		Seepage	0.04				
Observation-----	30	Somewhat limited Depth to bedrock	0.69	Somewhat limited Thin layer	0.70	Very limited Depth to water	1.00
		Slope	0.21	Piping	0.04		
315: Pequop-----	55	Somewhat limited Slope	0.88	Somewhat limited Thin layer	0.11	Very limited Depth to water	1.00
		Depth to bedrock	0.10	Seepage	0.06		
		Seepage	0.04				
Observation-----	30	Somewhat limited Slope	0.88	Somewhat limited Thin layer	0.70	Very limited Depth to water	1.00
		Depth to bedrock	0.69	Piping	0.04		
316: Petescreek-----	40	Somewhat limited Slope	0.88	Somewhat limited Thin layer	0.93	Very limited Depth to water	1.00
		Seepage	0.72				
		Depth to bedrock	0.19				
Bucklake-----	25	Somewhat limited Depth to bedrock	0.98	Somewhat limited Thin layer	0.98	Very limited Depth to water	1.00
		Slope	0.88				
Devada-----	20	Very limited Depth to bedrock	1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
		Slope	0.12	Content of large stones	0.01		
317: Petescreek-----	40	Somewhat limited Slope	0.88	Somewhat limited Thin layer	0.93	Very limited Depth to water	1.00
		Seepage	0.72				
		Depth to bedrock	0.19				
Devada-----	25	Very limited Depth to bedrock	1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
		Slope	0.12	Content of large stones	0.01		
Searles-----	20	Somewhat limited Depth to bedrock	0.88	Somewhat limited Content of large stones	0.98	Very limited Depth to water	1.00
		Slope	0.88	Thin layer	0.88		
		Seepage	0.04	Seepage	0.25		
318: Petescreek-----	45	Somewhat limited Seepage	0.72	Somewhat limited Thin layer	0.93	Very limited Depth to water	1.00
		Depth to bedrock	0.19				
		Slope	0.12				
Devada-----	20	Very limited Depth to bedrock	1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
		Slope	0.12	Content of large stones	0.01		

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Searles-----	20	Somewhat limited Depth to bedrock	0.88	Somewhat limited Content of large stones	0.98	Very limited Depth to water	1.00
		Slope	0.12	Thin layer	0.88		
		Seepage	0.04	Seepage	0.25		
319: Petescreek-----	60	Somewhat limited Seepage	0.72	Somewhat limited Thin layer	0.93	Very limited Depth to water	1.00
		Depth to bedrock	0.19				
		Slope	0.12				
Fredonyer-----	25	Somewhat limited Depth to bedrock	0.91	Somewhat limited Thin layer	0.91	Very limited Depth to water	1.00
		Seepage	0.72	Content of large stones	0.25		
320: Petescreek-----	60	Somewhat limited Slope	0.88	Somewhat limited Thin layer	0.93	Very limited Depth to water	1.00
		Seepage	0.72				
		Depth to bedrock	0.19				
Fredonyer-----	25	Somewhat limited Depth to bedrock	0.91	Somewhat limited Thin layer	0.91	Very limited Depth to water	1.00
		Slope	0.88	Content of large stones	0.25		
		Seepage	0.72				
321: Petescreek-----	35	Somewhat limited Seepage	0.72	Somewhat limited Thin layer	0.93	Very limited Depth to water	1.00
		Depth to bedrock	0.19				
		Slope	0.12				
Orhood-----	25	Very limited Depth to bedrock	1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
		Slope	0.12	Content of large stones	1.00		
Fredonyer-----	20	Somewhat limited Depth to bedrock	0.91	Somewhat limited Thin layer	0.91	Very limited Depth to water	1.00
		Seepage	0.72	Content of large stones	0.25		
		Slope	0.12				
322: Petescreek-----	50	Somewhat limited Seepage	0.72	Somewhat limited Thin layer	0.93	Very limited Depth to water	1.00
		Depth to bedrock	0.19				
		Slope	0.12				
Searles-----	30	Somewhat limited Depth to bedrock	0.46	Somewhat limited Content of large stones	0.92	Very limited Depth to water	1.00
		Slope	0.12	Thin layer	0.46		
		Seepage	0.04	Seepage	0.25		
323: Petescreek-----	45	Somewhat limited Seepage	0.72	Somewhat limited Thin layer	0.93	Very limited Depth to water	1.00
		Depth to bedrock	0.19				
		Slope	0.12				
Searles-----	25	Somewhat limited Depth to bedrock	0.88	Somewhat limited Content of large stones	0.98	Very limited Depth to water	1.00
		Slope	0.12	Thin layer	0.88		
		Seepage	0.04	Seepage	0.25		

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Orhood-----	20	Very limited Depth to bedrock Slope	1.00 0.12	Very limited Thin layer Content of large stones	1.00 1.00	Very limited Depth to water	1.00
324: Pit-----	80	Not limited		Very limited Piping	1.00	Very limited Depth to water	1.00
325: Pits-----	50	Not limited		Not rated		Not rated	
Dumps-----	40	Not limited		Not rated		Not rated	
326: Playas, silty clay--	90	Not limited		Very limited Ponding Salinity Hard to pack	1.00 1.00 0.50	Very limited Depth to water	1.00
327: Plinco, gravelly sandy loam-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.03	Very limited Cutbanks cave Depth to water	1.00 0.90
328: Plinco-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.03	Very limited Cutbanks cave Depth to water	1.00 0.90
329: Puls-----	85	Very limited Depth to cemented pan Depth to bedrock	1.00 0.83	Very limited Thin layer Hard to pack	1.00 0.19	Very limited Depth to water	1.00
330: Puls-----	55	Very limited Depth to cemented pan Depth to bedrock	1.00 0.83	Very limited Thin layer Hard to pack	1.00 0.19	Very limited Depth to water	1.00
Ninekar-----	30	Somewhat limited Depth to bedrock	0.91	Somewhat limited Thin layer Hard to pack	0.91 0.28	Very limited Depth to water	1.00
331: Puls-----	50	Very limited Depth to cemented pan Depth to bedrock	1.00 0.83	Very limited Thin layer Hard to pack	1.00 0.19	Very limited Depth to water	1.00
Tunnison-----	35	Somewhat limited Depth to bedrock	0.56	Very limited Hard to pack Thin layer	1.00 0.83	Very limited Depth to water	1.00
332: Quartzburg-----	60	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.23	Somewhat limited Thin layer Seepage	0.95 0.14	Very limited Depth to water	1.00
Scaribou-----	30	Very limited Slope Seepage	1.00 0.04	Not limited		Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
333: Ravendale-----	80	Not limited		Very limited Ponding Hard to pack	1.00 0.68	Very limited Depth to water	1.00
334: Ravendale-----	85	Not limited		Very limited Ponding Hard to pack	1.00 0.68	Very limited Depth to water	1.00
335: Ravendale-----	85	Not limited		Very limited Ponding Depth to saturated zone Hard to pack	1.00 1.00 0.68	Very limited Slow refill Cutbanks cave	1.00 0.10
336: Ravendale-----	85	Not limited		Somewhat limited Hard to pack	0.68	Very limited Depth to water	1.00
337: Redriver-----	45	Very limited Seepage Depth to bedrock	1.00 0.52	Somewhat limited Thin layer Seepage Content of large stones	0.52 0.12 0.10	Very limited Depth to water	1.00
Gerle-----	35	Very limited Seepage	1.00	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
338: Redriver-----	50	Very limited Seepage Depth to bedrock	1.00 0.61	Somewhat limited Thin layer Content of large stones Seepage	0.61 0.26 0.12	Very limited Depth to water	1.00
Weste-----	30	Somewhat limited Depth to bedrock Seepage	0.98 0.72	Somewhat limited Thin layer Seepage	0.98 0.06	Very limited Depth to water	1.00
339: Redriver, stony sandy loam-----	50	Very limited Seepage Depth to bedrock	1.00 0.91	Somewhat limited Thin layer Seepage Content of large stones	0.91 0.12 0.12	Very limited Depth to water	1.00
Woodwest-----	20	Very limited Depth to bedrock	1.00	Very limited Thin layer Content of large stones Seepage	1.00 1.00 0.25	Very limited Depth to water	1.00
Wafle-----	15	Very limited Seepage Depth to bedrock	1.00 0.01	Somewhat limited Thin layer Seepage	0.06 0.03	Very limited Depth to water	1.00
340: Rices-----	85	Somewhat limited Seepage	0.72	Very limited Piping Depth to saturated zone	1.00 0.84	Somewhat limited Slow refill Cutbanks cave Depth to water Salty water	0.28 0.10 0.07 0.01

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
341: Rose Creek-----	75	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Piping Seepage	0.95 0.22 0.01	Very limited Cutbanks cave Depth to water	1.00 0.02
342: Rose Creek-----	80	Very limited Seepage	1.00	Very limited Piping Depth to saturated zone	1.00 0.84	Very limited Cutbanks cave Depth to water Salty water	1.00 0.07 0.06
343: Rubble land-----	60	Very limited Seepage	1.00	Not rated		Very limited Depth to water	1.00
Fiddler-----	25	Somewhat limited Depth to bedrock Slope	0.99 0.64	Very limited Content of large stones Thin layer Hard to pack	1.00 0.99 0.01	Very limited Depth to water	1.00
344: Rubble land-----	40	Very limited Seepage	1.00	Not rated		Very limited Depth to water	1.00
Longcreek-----	30	Very limited Depth to bedrock Slope	1.00 0.97	Very limited Thin layer Content of large stones Hard to pack	1.00 0.58 0.06	Very limited Depth to water	1.00
Fivesprings-----	20	Somewhat limited Depth to bedrock Slope	0.99 0.97	Somewhat limited Thin layer	0.99	Very limited Depth to water	1.00
345: Rubble land-----	45	Very limited Seepage	1.00	Not rated		Very limited Depth to water	1.00
Rock outcrop-----	40	Very limited		Not rated		Not rated	
346: Rubble land-----	60	Very limited Seepage	1.00	Not rated		Very limited Depth to water	1.00
Waste-----	20	Somewhat limited Depth to bedrock Seepage Slope	0.98 0.72 0.41	Somewhat limited Thin layer Content of large stones Seepage	0.98 0.08 0.04	Very limited Depth to water	1.00
347: Saddlerock-----	80	Not limited		Very limited Ponding Depth to saturated zone Hard to pack	1.00 1.00 0.43	Somewhat limited Cutbanks cave	0.10
348: Saddlerock-----	80	Not limited		Somewhat limited Hard to pack Depth to saturated zone	0.72 0.68	Very limited Slow refill Depth to water Cutbanks cave	1.00 0.14 0.10

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
349: Saddlerock-----	80	Not limited		Somewhat limited Hard to pack Depth to saturated zone	0.72 0.01	Very limited Slow refill Depth to water Cutbanks cave	1.00 0.70 0.10
350: Saddlerock-----	30	Not limited		Somewhat limited Hard to pack Depth to saturated zone	0.72 0.68	Very limited Slow refill Depth to water Cutbanks cave	1.00 0.14 0.10
Yobe-----	30	Not limited		Very limited Piping Salinity	1.00 1.00	Very limited Slow refill Depth to water Cutbanks cave Salty water	1.00 0.81 0.10 0.01
Termo-----	25	Not limited		Very limited Ponding Depth to saturated zone Hard to pack Salinity	1.00 1.00 1.00 0.50	Somewhat limited Slow refill Salty water Cutbanks cave	0.96 0.78 0.10
351: Said-----	85	Somewhat limited Seepage Slope Depth to bedrock	0.72 0.08 0.01	Somewhat limited Thin layer	0.01	Very limited Depth to water	1.00
352: Said-----	50	Somewhat limited Slope Seepage Depth to bedrock	0.88 0.72 0.01	Somewhat limited Thin layer	0.01	Very limited Depth to water	1.00
Fraval-----	35	Somewhat limited Slope Seepage Depth to bedrock	0.88 0.72 0.05	Somewhat limited Thin layer	0.74	Very limited Depth to water	1.00
353: Said-----	60	Somewhat limited Seepage Slope Depth to bedrock	0.72 0.12 0.01	Somewhat limited Thin layer	0.01	Very limited Depth to water	1.00
Ninemile-----	25	Very limited Depth to bedrock	1.00	Very limited Thin layer Hard to pack	1.00 0.48	Very limited Depth to water	1.00
354: Scaribou-----	85	Somewhat limited Slope Seepage	0.08 0.04	Not limited		Very limited Depth to water	1.00
355: Scaribou-----	55	Very limited Slope Seepage	1.00 0.04	Somewhat limited Content of large stones Seepage	0.61 0.06	Very limited Depth to water	1.00
Penstock-----	20	Very limited Slope Seepage	1.00 0.72	Not limited		Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Rock outcrop-----	15	Very limited		Not rated		Not rated	
356: Searles-----	35	Somewhat limited Depth to bedrock Slope Seepage	0.88 0.12 0.04	Somewhat limited Thin layer Seepage	0.88 0.38	Very limited Depth to water	1.00
Devada-----	25	Very limited Depth to bedrock	1.00	Very limited Thin layer Content of large stones	1.00 0.01	Very limited Depth to water	1.00
Fivesprings-----	25	Somewhat limited Depth to bedrock Slope	0.99 0.12	Somewhat limited Thin layer	0.99	Very limited Depth to water	1.00
357: Searles-----	40	Somewhat limited Depth to bedrock Slope Seepage	0.88 0.88 0.04	Somewhat limited Thin layer Content of large stones Seepage	0.88 0.84 0.25	Very limited Depth to water	1.00
Devada-----	25	Very limited Depth to bedrock Slope	1.00 0.88	Very limited Thin layer Content of large stones	1.00 0.01	Very limited Depth to water	1.00
Rubble land-----	20	Very limited Seepage	1.00	Not rated		Very limited Depth to water	1.00
358: Searles-----	50	Somewhat limited Depth to bedrock Slope Seepage	0.88 0.12 0.04	Somewhat limited Content of large stones Thin layer Seepage	0.98 0.88 0.25	Very limited Depth to water	1.00
Glean-----	35	Very limited Seepage Depth to bedrock	1.00 0.29	Somewhat limited Thin layer Seepage	0.29 0.06	Very limited Depth to water	1.00
359: Searles-----	50	Somewhat limited Depth to bedrock Slope Seepage	0.88 0.88 0.04	Very limited Content of large stones Thin layer Seepage	1.00 0.88 0.25	Very limited Depth to water	1.00
Glean-----	35	Very limited Seepage Slope Depth to bedrock	1.00 0.88 0.29	Somewhat limited Thin layer Seepage	0.29 0.06	Very limited Depth to water	1.00
360: Searles-----	35	Somewhat limited Depth to bedrock Slope Seepage	0.88 0.08 0.04	Very limited Content of large stones Thin layer Seepage	1.00 0.88 0.25	Very limited Depth to water	1.00
Orhood-----	30	Very limited Depth to bedrock Slope	1.00 0.08	Very limited Thin layer Content of large stones	1.00 1.00	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Devada-----	20	Very limited Depth to bedrock Slope	1.00 0.08	Very limited Thin layer Content of large stones	1.00 0.01	Very limited Depth to water	1.00
361: Shinnpeak, very cobble sandy loam--	85	Very limited Depth to cemented pan	1.00	Very limited Thin layer Seepage	1.00 0.06	Very limited Depth to water	1.00
362: Smocreek-----	90	Not limited		Very limited Piping Salinity	1.00 0.50	Very limited Slow refill Depth to water Salty water Cutbanks cave	1.00 0.90 0.78 0.10
363: Smocreek, silt loam-	80	Not limited		Very limited Piping Salinity	1.00 0.50	Very limited Slow refill Depth to water Salty water Cutbanks cave	1.00 0.90 0.78 0.10
364: Southpac-----	85	Somewhat limited Slope Seepage	0.88 0.72	Not limited		Very limited Depth to water	1.00
365: Springmeyer-----	95	Somewhat limited Seepage	0.04	Somewhat limited Seepage	0.09	Very limited Depth to water	1.00
366: Springmeyer-----	95	Somewhat limited Seepage	0.04	Somewhat limited Seepage	0.07	Very limited Depth to water	1.00
367: Stacy-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.50	Very limited Depth to water	1.00
368: Standish-----	85	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.72	Very limited Depth to water	1.00
369: Stiles-----	90	Somewhat limited Seepage Depth to bedrock	0.72 0.11	Very limited Piping Thin layer	1.00 0.86	Very limited Depth to water	1.00
370: Sumine-----	35	Somewhat limited Depth to bedrock Seepage Slope	0.95 0.72 0.64	Somewhat limited Thin layer Content of large stones	0.95 0.03	Very limited Depth to water	1.00
Softscrabble, stony fine sandy loam----	30	Somewhat limited Slope Seepage	0.64 0.04	Very limited Content of large stones	1.00	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Hutchley-----	15	Very limited Depth to bedrock Slope	1.00 0.12	Very limited Thin layer Seepage	1.00 0.04	Very limited Depth to water	1.00
371: Susanville-----	85	Somewhat limited Seepage	0.04	Very limited Salinity Hard to pack	1.00 1.00	Very limited Salty water Slow refill Depth to water Cutbanks cave	1.00 0.96 0.81 0.10
372: Susanville-----	50	Somewhat limited Seepage	0.04	Very limited Salinity Hard to pack	1.00 1.00	Very limited Salty water Slow refill Depth to water Cutbanks cave	1.00 0.96 0.81 0.10
Smocreek-----	35	Not limited		Very limited Piping Salinity	1.00 0.50	Very limited Slow refill Depth to water Salty water Cutbanks cave	1.00 0.90 0.78 0.10
373: Swainow-----	40	Somewhat limited Seepage Slope Depth to bedrock	0.72 0.04 0.01	Somewhat limited Content of large stones Thin layer Seepage	0.99 0.29 0.25	Very limited Depth to water	1.00
Almanor-----	30	Very limited Seepage Depth to bedrock Slope	1.00 0.46 0.04	Somewhat limited Thin layer Seepage	0.46 0.12	Very limited Depth to water	1.00
Tahand-----	20	Somewhat limited Slope Seepage Depth to bedrock	0.04 0.04 0.01	Somewhat limited Thin layer	0.23	Very limited Depth to water	1.00
374: Swainow, very stony sandy loam-----	65	Somewhat limited Seepage Slope Depth to bedrock	0.72 0.21 0.01	Very limited Content of large stones Thin layer Seepage	1.00 0.29 0.25	Very limited Depth to water	1.00
Almanor-----	20	Very limited Seepage Depth to bedrock Slope	1.00 0.46 0.21	Somewhat limited Thin layer Seepage	0.46 0.12	Very limited Depth to water	1.00
375: Swainow-----	50	Somewhat limited Seepage Depth to bedrock	0.72 0.19	Somewhat limited Seepage Thin layer Content of large stones	0.25 0.19 0.01	Very limited Depth to water	1.00
Redriver-----	35	Very limited Seepage Depth to bedrock	1.00 0.91	Somewhat limited Thin layer Seepage Content of large stones	0.91 0.12 0.05	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
376: Swainow-----	55	Somewhat limited Slope	0.88	Somewhat limited Content of large stones	0.96	Very limited Depth to water	1.00
		Seepage	0.72	Thin layer	0.29		
		Depth to bedrock	0.01	Seepage	0.25		
Tahand-----	35	Somewhat limited Slope	0.88	Somewhat limited Thin layer	0.23	Very limited Depth to water	1.00
		Seepage	0.04				
		Depth to bedrock	0.01				
377: Tahand-----	45	Somewhat limited Slope	0.08	Somewhat limited Thin layer	0.23	Very limited Depth to water	1.00
		Seepage	0.04				
		Depth to bedrock	0.01				
Baileycreek-----	35	Somewhat limited Seepage	0.72	Somewhat limited Thin layer	0.98	Very limited Depth to water	1.00
		Depth to bedrock	0.30				
		Slope	0.08				
378: Tahand-----	35	Somewhat limited Seepage	0.04	Somewhat limited Thin layer	0.23	Very limited Depth to water	1.00
		Depth to bedrock	0.01				
Swainow-----	30	Somewhat limited Seepage	0.72	Somewhat limited Thin layer	0.29	Very limited Depth to water	1.00
		Depth to bedrock	0.01	Seepage	0.25		
				Content of large stones	0.02		
Almanor-----	20	Very limited Seepage	1.00	Somewhat limited Thin layer	0.46	Very limited Depth to water	1.00
		Depth to bedrock	0.46	Seepage	0.12		
379: Termo-----	50	Somewhat limited Seepage	0.04	Very limited Ponding	1.00	Somewhat limited Slow refill	0.96
				Depth to saturated zone	1.00	Salty water	0.78
				Hard to pack	1.00	Cutbanks cave	0.10
				Salinity	1.00		
Biscaro-----	30	Somewhat limited Seepage	0.72	Very limited Ponding	1.00	Very limited Cutbanks cave	1.00
		Depth to bedrock	0.02	Depth to saturated zone	1.00	Slow refill	0.28
				Piping	1.00		
				Thin layer	0.56		
				Seepage	0.50		
380: Termo-----	75	Somewhat limited Seepage	0.04	Very limited Ponding	1.00	Somewhat limited Slow refill	0.96
				Depth to saturated zone	1.00	Salty water	0.78
				Hard to pack	1.00	Cutbanks cave	0.10
				Salinity	1.00		
Playas-----	15	Not limited		Very limited Ponding	1.00	Very limited Depth to water	1.00
				Salinity	1.00		
				Hard to pack	0.50		

TABLE 16.--WATER MANAGEMENT--Continued

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
381: Termo-----	60	Somewhat limited Seepage	0.04	Very limited Ponding Depth to saturated zone Hard to pack Salinity	1.00 1.00 1.00 1.00	Somewhat limited Slow refill Salty water Cutbanks cave	0.96 0.78 0.10
Springmeyer-----	15	Somewhat limited Seepage	0.04	Somewhat limited Seepage	0.06	Very limited Depth to water	1.00
Smocreek-----	10	Not limited		Very limited Piping Salinity	1.00 0.50	Very limited Slow refill Depth to water Salty water Cutbanks cave	1.00 0.90 0.78 0.10
382: Toiyabe-----	50	Somewhat limited Slope Depth to bedrock	0.88 0.66	Very limited Thin layer Seepage	1.00 0.11	Very limited Depth to water	1.00
Lasco-----	20	Very limited Seepage Slope Depth to bedrock	1.00 0.88 0.01	Somewhat limited Thin layer Seepage	0.13 0.01	Very limited Depth to water	1.00
Quartzburg-----	15	Very limited Seepage Slope Depth to bedrock	1.00 0.88 0.23	Somewhat limited Thin layer Seepage	0.95 0.06	Very limited Depth to water	1.00
383: Toiyabe-----	55	Somewhat limited Depth to bedrock Slope	0.66 0.04	Very limited Thin layer Seepage	1.00 0.11	Very limited Depth to water	1.00
Lasco-----	30	Very limited Seepage Slope Depth to bedrock	1.00 0.04 0.01	Somewhat limited Thin layer Seepage	0.13 0.01	Very limited Depth to water	1.00
384: Torriorthents-----	65	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.22	Very limited Depth to water	1.00
Zorravista-----	25	Very limited Seepage	1.00	Somewhat limited Seepage	0.33	Very limited Depth to water	1.00
385: Truax-----	85	Very limited Seepage	1.00	Somewhat limited Thin layer Seepage	0.11 0.09	Very limited Depth to water	1.00
386: Truckee-----	90	Somewhat limited Seepage	0.04	Very limited Piping Depth to saturated zone	1.00 0.02	Somewhat limited Slow refill Depth to water Cutbanks cave	0.96 0.68 0.10
387: Truckee-----	55	Somewhat limited Seepage	0.04	Very limited Piping Depth to saturated zone	1.00 0.84	Somewhat limited Slow refill Cutbanks cave Depth to water	0.96 0.10 0.07

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Humboldt-----	30	Somewhat limited Seepage	0.04	Somewhat limited Depth to saturated zone Hard to pack	0.95 0.01	Somewhat limited Slow refill Cutbanks cave Depth to water	0.96 0.10 0.02
388: Tunnison-----	85	Somewhat limited Depth to bedrock	0.56	Very limited Hard to pack Thin layer	1.00 0.83	Very limited Depth to water	1.00
389: Tunnison-----	60	Somewhat limited Depth to bedrock	0.56	Very limited Hard to pack Thin layer	1.00 0.83	Very limited Depth to water	1.00
Devada-----	30	Very limited Depth to bedrock	1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
390: Tunnison-----	50	Somewhat limited Depth to bedrock	0.56	Very limited Hard to pack Thin layer	1.00 0.83	Very limited Depth to water	1.00
Devada-----	45	Very limited Depth to bedrock	1.00	Very limited Thin layer Content of large stones	1.00 0.01	Very limited Depth to water	1.00
391: Ulhalf-----	85	Somewhat limited Slope Seepage Depth to bedrock	0.88 0.04 0.01	Somewhat limited Thin layer	0.03	Very limited Depth to water	1.00
392: Ulhalf-----	90	Somewhat limited Seepage Depth to bedrock	0.04 0.01	Somewhat limited Thin layer	0.03	Very limited Depth to water	1.00
393: Ulhalf-----	60	Somewhat limited Seepage Depth to bedrock	0.04 0.01	Somewhat limited Thin layer	0.03	Very limited Depth to water	1.00
Gavel-----	30	Somewhat limited Seepage Depth to bedrock	0.72 0.19	Somewhat limited Thin layer Content of large stones	0.93 0.18	Very limited Depth to water	1.00
394: Ulhalf-----	60	Somewhat limited Seepage Depth to bedrock	0.04 0.01	Somewhat limited Thin layer	0.03	Very limited Depth to water	1.00
Southpac-----	30	Somewhat limited Seepage Slope	0.72 0.12	Somewhat limited Content of large stones	0.01	Very limited Depth to water	1.00
395: Verdico-----	50	Somewhat limited Depth to bedrock Slope	0.13 0.12	Somewhat limited Thin layer Hard to pack	0.88 0.79	Very limited Depth to water	1.00
Chalco-----	40	Somewhat limited Depth to bedrock	0.66	Very limited Thin layer Hard to pack	1.00 0.21	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
396: Wespac-----	85	Somewhat limited Seepage	0.72	Very limited Piping Seepage Salinity	1.00 0.82 0.50	Very limited Depth to water	1.00
397: Wespac-----	50	Somewhat limited Seepage	0.72	Very limited Piping Salinity	1.00 0.50	Very limited Depth to water	1.00
Playas-----	30	Not limited		Very limited Ponding Salinity Hard to pack	1.00 1.00 0.50	Very limited Depth to water	1.00
398: Weste-----	35	Somewhat limited Depth to bedrock Seepage Slope	0.88 0.72 0.08	Somewhat limited Thin layer Content of large stones	0.88 0.03	Very limited Depth to water	1.00
Baileycreek-----	30	Somewhat limited Seepage Depth to bedrock Slope	0.72 0.23 0.08	Somewhat limited Thin layer Content of large stones	0.95 0.16	Very limited Depth to water	1.00
Tahand-----	20	Somewhat limited Slope Seepage Depth to bedrock	0.08 0.04 0.01	Somewhat limited Thin layer	0.23	Very limited Depth to water	1.00
399: Weste-----	65	Somewhat limited Depth to bedrock Slope Seepage	0.98 0.88 0.72	Somewhat limited Thin layer Seepage	0.98 0.06	Very limited Depth to water	1.00
Rock outcrop-----	15	Somewhat limited		Not rated		Not rated	
400: Whitinger-----	45	Somewhat limited Depth to bedrock Slope Seepage	0.95 0.08 0.04	Somewhat limited Thin layer Content of large stones	0.95 0.78	Very limited Depth to water	1.00
Devada-----	35	Very limited Depth to bedrock Slope	1.00 0.08	Very limited Thin layer Content of large stones	1.00 0.01	Very limited Depth to water	1.00
401: Whorled-----	45	Very limited Seepage Depth to bedrock Slope	1.00 0.93 0.21	Somewhat limited Thin layer Seepage	0.94 0.19	Very limited Depth to water	1.00
Almanor-----	35	Very limited Seepage Depth to bedrock Slope	1.00 0.46 0.21	Somewhat limited Thin layer Seepage	0.46 0.12	Very limited Depth to water	1.00

TABLE 16.--WATER MANAGEMENT--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
402: Wylo-----	50	Very limited Depth to bedrock Slope	1.00 0.12	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Bucklake-----	35	Somewhat limited Depth to bedrock Slope	0.98 0.88	Somewhat limited Thin layer	0.98	Very limited Depth to water	1.00
403: Wylo-----	40	Very limited Depth to bedrock	1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Diaz-----	30	Somewhat limited Depth to bedrock Slope	0.96 0.12	Somewhat limited Thin layer Hard to pack	0.96 0.22	Very limited Depth to water	1.00
Brubeck-----	15	Very limited Seepage Depth to bedrock	1.00 0.81	Somewhat limited Thin layer Hard to pack	0.81 0.72	Very limited Depth to water	1.00
404: Wylo-----	40	Very limited Depth to bedrock Slope	1.00 0.12	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Pickup-----	30	Somewhat limited Depth to bedrock Slope	0.95 0.88	Somewhat limited Thin layer Content of large stones	0.95 0.01	Very limited Depth to water	1.00
Bucklake-----	20	Somewhat limited Depth to bedrock Slope	0.98 0.88	Somewhat limited Thin layer	0.98	Very limited Depth to water	1.00
405: Xerolls-----	55	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.46 0.14	Very limited Cutbanks cave Depth to water	1.00 0.24
Aquolls-----	45	Somewhat limited Seepage	0.72	Very limited Ponding Depth to saturated zone Seepage	1.00 1.00 0.03	Very limited Cutbanks cave Slow refill	1.00 0.28
406: Yobe-----	85	Not limited		Very limited Piping Salinity	1.00 1.00	Very limited Slow refill Depth to water Cutbanks cave Salty water	1.00 0.81 0.10 0.01
407: Zorravista-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.33	Very limited Depth to water	1.00
408: Zorravista-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.82	Very limited Depth to water	1.00
409: Water-----	100	Not rated		Not rated		Not rated	

(Absence of an entry indicates that the data were not estimated.)

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TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
Ninemile-----	In											
	0-2	Very stony loam	CL-ML	A-4	15-40	5-25	70-90	70-85	60-75	50-60	25-30	5-10
	2-11	Clay	CH	A-7	0	0-5	95-100	85-95	80-90	60-80	55-65	30-35
	11-18	Gravelly clay	CH	A-7	0	5-15	70-90	65-90	60-80	50-70	55-65	30-35
	18-22	Unweathered bedrock			---	---	---	---	---	---	---	---
104: Ardep-----	0-6	Sandy loam	SM	A-4	0	0	100	95-100	70-80	35-50	20-30	NP-5
	6-34	Loam	ML, SM	A-4	0	0	100	95-100	70-85	40-60	20-30	NP-5
	34-60	Stratified sand to fine sandy loam	SM	A-2	0	0	100	95-100	50-60	10-20	5-15	NP
105: Ardep-----	0-6	Loam	SM	A-4	0	0	100	95-100	70-80	35-50	20-30	NP-5
	6-34	Loam	ML	A-4	0	0	100	95-100	75-85	50-60	20-30	NP-5
	34-60	Stratified sand to fine sandy loam	SM	A-2	0	0	100	95-100	50-60	10-20	5-15	NP
106: Ardep-----	0-6	Fine sandy loam	SM	A-4	0	0	100	95-100	70-85	35-50	20-30	NP-5
	6-20	Loam, silt loam, fine sandy loam	ML, SM	A-4	0	0	100	95-100	70-85	40-60	20-30	NP-5
	20-60	Stratified sand to fine sandy loam	SM	A-2	0	0	100	95-100	50-60	10-20	5-15	NP
107: Ardep-----	0-3	Very fine sand	SM	A-4	0	0	100	95-100	75-95	35-50	20-30	NP-5
	3-59	Stratified sand to fine sandy loam	ML	A-4	0	0	100	95-100	75-85	50-60	20-30	NP-5
	59-60	Stratified sand to fine sandy loam	SM	A-2	0	0	100	95-100	50-60	10-20	5-15	NP
108: Ardep-----	0-5	Sandy loam	SM	A-4	0	0	100	95-100	70-80	35-50	20-30	NP-5
	5-36	Loam	ML, SM	A-4	0	0	100	95-100	70-85	40-60	20-30	NP-5
	36-60	Stratified sand to fine sandy loam	SM	A-2	0	0	100	95-100	50-60	10-20	5-15	NP
Wespac-----	0-5	Sand	SM	A-2	0	0	100	100	75-80	20-30	5-15	NP
	5-12	Sandy clay loam, clay loam	CL	A-6	0	0	100	100	80-90	40-65	30-40	10-20
	12-60	Loam	CL-ML, ML	A-4	0	0	100	100	85-95	50-65	25-35	5-10
Zorravista-----	0-4	Fine sand	SM, SP-SM	A-2, A-3	0	0	100	100	75-90	5-20	5-15	NP
	4-60	Stratified fine sand to sand to loamy fine sand	SM, SP-SM	A-2, A-3	0	0	100	100	65-80	5-30	5-15	NP
109: Artray-----	0-9	Sandy loam	SM	A-4	0	0	100	80-100	60-80	35-45	5-15	NP
	9-48	Coarse sandy loam, sandy loam	SM	A-2, A-4	0	0	100	85-100	50-65	25-45	5-15	NP
	48-60	Coarse sand	SP-SM	A-1	0	0	100	100	40-50	5-10	5-15	NP

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

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TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches						
							4	10	40	200		
	In				Pct	Pct					Pct	
139: Calnat-----	0-5	Sandy loam	SM	A-4	0	0	95-100	95-100	60-70	35-50	20-30	NP-5
	5-13	Sandy clay loam	SC, SC-SM	A-4, A-6	0	0	95-100	90-100	65-80	35-50	25-35	5-15
	13-28	Loam, silt loam	ML	A-5	0	0	100	100	90-95	75-85	40-50	NP-5
	28-60	Weathered bedrock			---	---	---	---	---	---	---	---
140: Calneva-----	0-6	Silt loam	CL-ML, ML	A-4	0	0	100	100	95-100	70-85	25-35	5-10
	6-16	Silty clay, silty clay loam	MH	A-7	0	0	100	100	95-100	85-95	50-65	20-30
	16-36	Loam, silt loam, clay loam	ML	A-4, A-6	0	0	100	100	90-100	75-90	30-40	5-15
	36-72	Stratified sand to silty clay loam	ML	A-4	0	0	95-100	95-100	80-90	60-80	20-35	NP-10
141: Calneva-----	0-6	Silt loam	CL-ML, ML	A-4	0	0	100	100	95-100	70-85	25-35	5-10
	6-16	Silty clay, silty clay loam	MH	A-7	0	0	100	100	95-100	85-95	50-65	20-30
	16-36	Loam, silt loam, clay loam	ML	A-4, A-6	0	0	100	100	90-100	75-90	30-40	5-15
	36-72	Stratified sand to silty clay loam	ML	A-4	0	0	95-100	95-100	80-90	60-80	20-35	NP-10
Playas-----	0-6	Silty clay	CH, CL, MH	A-7	0	0	100	100	100	90-100	45-75	20-40
	6-60	Silty clay loam, clay, silty clay	CH, CL, MH	A-7	0	0	100	100	100	90-100	45-75	20-40
142: Calpine-----	0-20	Coarse sandy loam	SM	A-2	0	0-5	95-100	75-100	50-70	25-35	20-30	NP-5
	20-35	Sandy loam, coarse sandy loam	SM	A-2, A-4	0	0-5	95-100	85-100	50-70	25-50	20-30	NP-5
	35-60	Stratified gravelly coarse sandy loam to gravelly sandy loam	SM	A-1, A-2	0	0-5	75-85	50-75	35-50	20-35	5-15	NP
143: Calpine-----	0-24	Sandy loam	SM	A-4	0	0-5	95-100	75-100	60-70	35-50	15-25	NP-5
	24-60	Sandy loam, coarse sandy loam	SM	A-4, A-2	0	0-5	100	75-100	50-70	20-40	15-25	NP-5
144: Calpine-----	0-24	Sandy loam	SM	A-4	0	0-5	95-100	75-100	60-70	35-50	15-25	NP-5
	24-60	Sandy loam, coarse sandy loam	SM	A-2, A-4	0	0-5	100	75-100	50-70	20-40	15-25	NP-5

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
145: Calpine-----	0-21	Sandy loam	SM	A-4	0	0-5	95-100	75-100	60-70	35-50	15-25	NP-5
	21-46	Sandy loam, coarse sandy loam	SM	A-2, A-4	0	0-5	100	75-100	50-70	20-40	15-25	NP-5
	46-81	Stratified coarse sand to loamy fine sand	SM, SP-SM	A-1, A-2	0	0-5	100	75-100	40-70	10-25	5-15	NP
146: Indiano-----	0-7	Gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-4	0	0-5	60-80	60-75	50-70	35-50	20-30	NP-10
	7-27	Sandy clay loam, loam, gravelly clay loam	CL, GC, SC	A-2, A-6, A-7	0	0-15	65-95	60-85	50-85	30-70	30-45	15-25
	27-31	Unweathered bedrock			---	---	---	---	---	---	---	---
Chalco-----	0-4	Gravelly fine sandy loam	SM	A-2, A-4	0	0-5	75-85	65-75	50-60	30-45	20-25	NP-5
	4-15	Clay, silty clay	CH	A-7	0	0-5	80-100	75-100	70-90	65-85	50-60	30-40
	15-19	Weathered bedrock			---	---	---	---	---	---	---	---
147: Capona-----	0-11	Fine sandy loam	ML, SM	A-4	0	0	80-100	75-100	60-95	35-60	20-30	NP-5
	11-39	Loam, gravelly loam, gravelly sandy clay loam	ML, SM	A-2, A-4	0	0-25	70-95	65-90	50-85	25-60	30-35	5-10
	39-43	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock Outcrop----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
148: Cewat-----	0-4	Very stony fine sandy loam	GC-GM, SC-SM	A-2, A-4	5-20	5-10	60-85	50-75	40-60	25-45	20-25	5-10
	4-9	Very gravelly loam	GC, GC-GM, SC, SC-SM	A-2	0-2	10-20	50-70	35-55	25-40	20-35	25-35	5-15
	9-21	Extremely gravelly loam	GC, GC-GM, SC, SC-SM	A-2	0-2	20-30	30-50	15-30	10-20	10-15	25-35	5-15
	21-25	Unweathered bedrock			---	---	---	---	---	---	---	---
149: Cewat-----	0-4	Very stony fine sandy loam	GC-GM, SC-SM	A-2, A-4	5-20	5-10	60-85	50-75	40-60	25-45	20-25	5-10
	4-9	Very gravelly loam	GC, GC-GM, SC, SC-SM	A-2	0-2	10-20	50-70	35-55	25-40	20-35	25-35	5-15
	9-21	Extremely gravelly loam	GC, GC-GM, SC, SC-SM	A-2	0-2	20-30	30-50	15-30	10-20	10-15	25-35	5-15
	21-25	Unweathered bedrock			---	---	---	---	---	---	---	---
Mcconnel-----	0-3	Gravelly fine sandy loam	GM	A-2, A-4	0	0	60-70	50-70	40-60	25-45	15-25	NP-5
	3-60	Stratified extremely gravelly coarse sand to very gravelly sandy loam	GP	A-1	0	0-15	25-35	10-35	5-15	0-5	5-15	NP

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit Pct	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Toulon-----	0-3	Very gravelly fine sandy loam	GM, SM	A-1, A-2	0	0-10	55-70	40-50	30-45	20-35	---	NP
	3-14	Very gravelly sandy loam, very gravelly coarse sandy loam, very gravelly loam	GM	A-1, A-2	0	0-5	40-60	25-40	15-35	10-30	---	NP
	14-37	Stratified very gravelly sand to extremely gravelly loamy coarse sand	GP, GP-GM	A-1	0-5	0-15	40-50	25-40	5-20	0-10	---	NP
	37-60	Stratified gravelly coarse sand to extremely cobbly coarse sand	GP, GP-GM	A-1	0-5	25-50	40-50	25-40	5-20	0-10	---	NP
150: Chappuis-----	0-7	Coarse sandy loam	SM	A-4	0	0	100	100	60-70	35-50	20-30	NP-5
	7-17	Silty clay	MH	A-7	0	0	100	100	100	95-100	60-70	20-30
	17-60	Silt loam, loam, silty clay loam	ML	A-7	0	0	100	100	95-100	85-95	40-50	10-20
151: Chappuis-----	0-10	Silt loam	CL-ML, ML	A-4	0	0	100	100	90-100	75-90	25-35	5-10
	10-19	Silty clay	MH	A-7	0	0	100	100	100	95-100	60-70	20-30
	19-25	Loam, silt loam, silty clay loam	ML	A-7	0	0	100	100	95-100	85-95	40-50	10-20
	25-60	Silt loam, very fine sandy loam, loam	CL-ML, ML	A-4	0	0	80-100	75-100	65-85	50-70	25-35	5-10
152: Chimney-----	0-13	Gravelly loamy coarse sand	SM	A-1	0	0	75-95	55-75	30-50	15-25	5-15	NP
	13-35	Gravelly loamy coarse sand, gravelly coarse sand, gravelly sand	SM	A-1	0	0	75-95	55-75	25-50	10-25	5-15	NP
	35-60	Loamy coarse sand, coarse sand, sand	SM	A-1	0	0	85-100	75-95	40-50	15-25	5-15	NP
153: Chimney-----	0-13	Gravelly loamy coarse sand	SM	A-1	0	0	75-95	55-75	30-50	15-25	5-15	NP
	13-35	Gravelly loamy coarse sand, gravelly coarse sand, gravelly sand	SM	A-1	0	0	75-95	55-75	25-50	10-25	5-15	NP
	35-60	Loamy coarse sand, coarse sand, sand	SM	A-1	0	0	85-100	75-95	40-50	15-25	5-15	NP

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
156: Chimney-----	0-13	Gravelly loamy coarse sand	SM	A-1	0	0	75-95	55-75	30-50	15-25	5-15	NP
	13-35	Gravelly loamy coarse sand, gravelly coarse sand, gravelly sand	SM	A-1	0	0	75-95	55-75	25-50	10-25	5-15	NP
	35-60	Loamy coarse sand, coarse sand, sand	SM	A-1	0	0	85-100	75-95	40-50	15-25	5-15	NP
Waterman-----	0-7	Gravelly loamy coarse sand	SM	A-1	1-2	5-15	65-85	50-75	25-50	10-25	5-15	NP
	7-18	Very gravelly loamy coarse sand, very gravelly sand	GM, GP-GM, SM, SP-SM	A-1	0	0-15	35-60	25-50	15-30	5-15	5-15	NP
	18-22	Unweathered bedrock			---	---	---	---	---	---	---	---
157: Chirpchatte----	0-11	Sandy loam	SM	A-4	0	0	90-100	75-100	50-70	35-50	20-30	NP-5
	11-52	Sandy clay loam, clay loam	CL, SC	A-6	0	0	90-95	75-95	65-85	40-60	30-40	10-20
	52-65	Loam, sandy loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0	100	95-100	65-85	45-65	25-35	5-15
158: Cleghorn-----	0-7	Sandy loam	SC-SM, SM	A-4	0	0	90-100	85-100	50-65	35-50	20-30	NP-10
	7-15	Clay loam, sandy clay loam	CL, SC	A-6	0	0	95-100	90-100	80-90	55-65	35-40	10-20
	15-19	Loam	CL, SC	A-6	0	0	95-100	90-100	75-85	40-50	30-35	10-20
	19-34	Sandy loam, loam	SM	A-4	0	0	80-100	75-100	50-65	35-50	5-15	NP
	34-60	Loam, fine sandy loam	ML, SM	A-4	0	0	80-95	75-95	65-80	35-60	5-15	NP
159: Cleghorn-----	0-7	Sandy loam	SC-SM, SM	A-4	0	0	90-100	85-100	50-65	35-50	20-30	NP-10
	7-15	Clay loam, sandy clay loam	CL, SC	A-6	0	0	95-100	90-100	80-90	55-65	35-40	10-20
	15-19	Loam	CL, SC	A-6	0	0	95-100	90-100	75-85	40-50	30-35	10-20
	19-34	Sandy loam, loam	SM	A-4	0	0	80-100	75-100	50-65	35-50	5-15	NP
	34-60	Loam, fine sandy loam	ML, SM	A-4	0	0	80-95	75-95	65-80	35-60	5-15	NP
160: Cochran-----	0-11	Gravelly loam	GC, GC-GM, GM	A-4	0	0-5	65-70	60-65	50-55	35-50	25-35	5-10
	11-31	Extremely cobbly clay loam, very gravelly clay	GC	A-2	1-5	10-45	30-40	20-35	15-30	10-25	40-55	20-30
	31-60	Stratified extremely cobbly loamy coarse sand to extremely gravelly loam	GC, GC-GM, GM	A-1, A-2	10-20	25-50	35-45	25-30	15-20	10-15	20-30	NP-10

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Gavel-----	0-4	Gravelly loam	ML, SM	A-4	5-10	0-15	70-90	65-85	55-80	40-65	25-35	NP-10
	4-27	Very gravelly loam, very cobbly loam	GC, GC-GM	A-4, A-6	0	15-30	55-70	50-65	45-60	35-50	25-40	5-15
	27-70	Weathered bedrock			---	---	---	---	---	---	---	---
178: Devada-----	0-7	Very stony loam	GC, GC-GM, SC, SC-SM	A-6, A-2, A-4	15-35	10-25	55-75	50-70	40-50	30-45	25-35	5-15
	7-15	Gravelly clay, clay	CH, GC	A-7	0	0-5	65-100	55-100	50-90	35-70	50-65	25-35
	15-19	Unweathered bedrock			---	---	---	---	---	---	---	---
Petescreek-----	0-10	Gravelly loam	GC-GM, GM, SC-SM, SM	A-4	0	0-5	55-80	50-75	45-65	35-50	25-35	5-10
	10-17	Gravelly loam	SC-SM, SM	A-4	0	0-5	75-85	70-80	60-75	40-55	25-35	5-10
	17-27	Cobbly loam	SC-SM, SM	A-4	0	10-25	70-85	65-80	55-70	35-50	25-35	5-10
	27-60	Weathered bedrock			---	---	---	---	---	---	---	---
Fiddler-----	0-8	Very stony loam	CL, CL-ML, ML	A-4	25-55	25-55	95-100	90-100	80-90	55-75	25-35	5-10
	8-14	Very stony clay loam, very cobbly clay loam	CH, CL	A-7	25-55	40-50	75-90	70-85	65-75	50-55	40-50	20-35
	14-23	Clay	CH, CL	A-7	25-55	40-50	75-90	70-85	65-75	55-65	50-60	20-35
	23-28	Unweathered bedrock			---	---	---	---	---	---	---	---
179: Devada-----	0-7	Very cobbly loam	GC, GC-GM, SC, SC-SM	A-2, A-4, A-6	0-5	30-65	55-75	50-70	40-50	30-45	25-35	5-15
	7-15	Gravelly clay, clay	CH, GC	A-7	0	0-5	65-100	55-100	50-90	35-70	50-65	25-35
	15-19	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock Outcrop----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
180: Dotta-----	0-10	Gravelly loam	GM, SM	A-2, A-4	0	0-5	55-80	50-75	40-70	30-50	20-35	NP-10
	10-56	Gravelly sandy clay loam, gravelly loam	GC, SC	A-6	0	0-5	55-80	50-75	40-70	35-50	30-40	10-15
	56-60	Gravelly sandy loam, gravelly coarse sandy loam	GM, SM	A-1, A-2	0	0-5	55-80	50-75	30-60	15-30	20-30	NP-5
181: Dotta-----	0-9	Gravelly loam	GM, SM	A-2, A-4	0	0-5	55-80	50-75	40-70	30-50	20-35	NP-10
	9-32	Gravelly sandy clay loam, gravelly loam	GC, SC	A-6	0	0-5	55-80	50-75	40-70	35-50	30-40	10-15
	32-60	Gravelly sandy loam, gravelly coarse sandy loam	GM, SM	A-1, A-2	0	0-5	55-80	50-75	30-60	15-30	20-30	NP-5
182: Dryvalley-----	0-4	Silt loam	CL-ML, ML	A-4	0	0	100	100	100	85-95	25-35	5-10
	4-20	Silty clay, clay	CH, MH	A-7	0	0	100	100	100	90-95	50-75	25-40
	20-42	Silty clay loam	CL	A-7	0	0	100	100	100	85-95	40-50	20-30
	42-60	Stratified sand to sandy loam	SM	A-1, A-2	0	0	85-100	85-100	45-70	15-30	5-15	NP

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

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TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

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TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

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TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Longcreek-----	0-3	Very stony loam	GC-GM, GM, SC-SM, SM	A-4	30-40	0-5	65-75	55-65	45-55	35-45	25-35	5-10
	3-7	Very cobbly clay loam	CL	A-6	0	30-40	70-80	60-75	55-70	50-60	30-40	15-20
	7-18	Very cobbly clay, very cobbly silty clay	CH, CL	A-7	0	30-50	70-80	60-75	55-70	50-65	45-60	25-35
	18-28	Unweathered bedrock			---	---	---	---	---	---	---	---
199: Fivesprings-----	0-3	Very stony loam	CL-ML, ML, SC-SM, SM	A-4	15-30	15-35	70-85	65-80	55-70	40-60	25-35	5-10
	3-8	Very gravelly clay loam	GC	A-2, A-6	0-5	5-15	35-65	30-60	25-55	20-45	30-40	10-15
	8-23	Very gravelly clay, very gravelly clay loam	GC	A-2, A-7	0-1	10-15	35-65	30-60	25-55	20-50	40-50	15-25
	23-33	Unweathered bedrock			---	---	---	---	---	---	---	---
Longcreek-----	0-3	Very stony loam	GC-GM, GM, SC-SM, SM	A-4	30-40	0-5	65-75	55-65	45-55	35-45	25-35	5-10
	3-7	Very cobbly clay loam	CL	A-6	0	30-40	70-80	60-75	55-70	50-60	30-40	15-20
	7-18	Very cobbly clay, very cobbly silty clay	CH, CL	A-7	0	30-50	70-80	60-75	55-70	50-65	45-60	25-35
	18-28	Unweathered bedrock			---	---	---	---	---	---	---	---
200: Fivesprings-----	0-3	Very stony loam	CL-ML, ML, SC-SM, SM	A-4	15-30	15-35	70-85	65-80	55-70	40-60	25-35	5-10
	3-8	Very gravelly clay loam	GC	A-2, A-6	0-5	5-15	35-65	30-60	25-55	20-45	30-40	10-15
	8-23	Very gravelly clay, very gravelly clay loam	GC	A-2, A-7	0-1	10-15	35-65	30-60	25-55	20-50	40-50	15-25
	23-33	Unweathered bedrock			---	---	---	---	---	---	---	---
Longcreek-----	0-3	Very stony loam	GC-GM, GM, SC-SM, SM	A-4	30-40	0-5	65-75	55-65	45-55	35-45	25-35	5-10
	3-7	Very cobbly clay loam	CL	A-6	0	30-40	70-80	60-75	55-70	50-60	30-40	15-20
	7-18	Very cobbly clay, very cobbly silty clay	CL, CH	A-7	0	30-50	70-80	60-75	55-70	50-65	45-60	25-35
	18-28	Unweathered bedrock			---	---	---	---	---	---	---	---
Rubble Land-----	0-60	Fragmental material	GP	A-1	35-40	40-50	0-10	0-5	0-5	0	---	---

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit Pct	Plas- ticity index
			Unified	AASHTO	>10 inches Pct	3-10 inches Pct	4	10	40	200		
	In										Pct	
201: Fivesprings-----	0-3	Very stony loam	CL-ML, ML, SC-SM, SM	A-4	15-30	20-35	70-85	65-80	55-70	40-60	25-35	5-10
	3-8	Very gravelly clay loam	GC	A-2, A-6	0-5	5-15	35-65	30-60	25-55	20-45	30-40	10-15
	8-23	Very gravelly clay, very gravelly clay loam	GC	A-2, A-7	0-1	10-15	35-65	30-60	25-55	20-50	40-50	15-25
	23-33	Unweathered bedrock			---	---	---	---	---	---	---	---
Rubble Land-----	0-60	Fragmental material	GP	A-1	35-40	40-50	0-10	0-5	0-5	0	---	---
Devada-----	0-4	Very cobbly loam	GC, GC-GM, SC, SC-SM	A-2, A-4, A-6	0-5	30-65	55-75	50-70	40-50	30-45	25-35	5-15
	4-13	Gravelly clay, clay	CH, GC	A-7	0	0-5	65-100	55-100	50-90	35-70	50-65	25-35
	13-23	Unweathered bedrock			---	---	---	---	---	---	---	---
202: Fivesprings-----	0-3	Very stony loam	CL-ML, ML, SC-SM, SM	A-4	15-30	15-35	70-85	65-80	55-70	40-60	25-35	5-10
	3-8	Very gravelly clay loam	GC	A-2, A-6	0-5	5-15	35-65	30-60	25-55	20-45	30-40	10-15
	8-23	Very gravelly clay, very gravelly clay loam	GC	A-2, A-7	0-1	10-15	35-65	30-60	25-55	20-50	40-50	15-25
	23-33	Unweathered bedrock			---	---	---	---	---	---	---	---
Sumine-----	0-10	Very stony loam	SC-SM	A-4	5-15	5-15	70-85	60-75	50-65	35-50	25-30	5-10
	10-34	Very cobbly clay loam, very gravelly loam, very gravelly clay loam	GC	A-2, A-6	0	15-40	45-70	35-65	30-50	30-45	30-40	10-20
	34-38	Unweathered bedrock			---	---	---	---	---	---	---	---
203: Fluents-----	0-4	Stratified very fine sandy loam	ML	A-4	0	0	100	100	85-95	50-65	5-15	NP
	4-60	Stratified coarse sand to loam	ML, SM, SP- SM, SW-SM	A-2, A-3, A-4	0	0	100	100	50-95	5-60	5-15	NP
Riverwash-----	0-6	Extremely gravelly coarse sand	GP, GW	A-1	0	0-25	10-40	10-35	5-25	0-5	5-15	NP
	6-60	Stratified extremely gravelly coarse sand to gravelly sand	GP, GW, SP, SW	A-1	0	0-25	25-55	25-50	10-30	0-5	5-15	NP
204: Fordney-----	0-10	Loamy sand	SM	A-2, A-4	0	0	100	100	75-85	30-45	5-15	NP
	10-60	Loamy sand, loamy fine sand, sand	SM, SP-SM	A-1, A-2, A- 3, A-4	0	0	100	90-100	45-85	5-45	5-15	NP

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
205: Fordney-----	0-10	Loamy fine sand	SM	A-2, A-4	0	0	100	100	75-85	30-45	5-15	NP
	10-62	Loamy sand, loamy fine sand, sand	SM, SP-SM	A-1, A-2, A- 3, A-4	0	0	100	90-100	45-85	5-45	5-15	NP
206: Fordney-----	0-12	Loamy fine sand	SM	A-2, A-4	0	0	100	100	75-85	30-45	5-15	NP
	12-62	Loamy fine sand, loamy sand, sand	SM, SP-SM	A-2, A-3, A-4	0	0	100	90-100	50-85	5-45	5-15	NP
207: Forgay-----	0-11	Extremely gravelly sandy loam	GP-GM	A-1	0	10-20	20-35	15-30	10-25	5-10	5-15	NP
	11-40	Extremely gravelly sandy loam, extremely gravelly coarse sandy loam	GP-GM	A-1	0	10-20	20-35	15-30	10-25	5-10	5-15	NP
	40-60	Stratified extremely gravelly loamy coarse sand to very gravelly sandy loam	GP, GP-GM	A-1	0	5-15	25-55	15-45	10-30	0-10	5-15	NP
208: Forgay-----	0-11	Extremely gravelly sandy loam	GP-GM	A-1	0	10-20	20-35	15-30	10-25	5-10	5-15	NP
	11-40	Extremely gravelly sandy loam, extremely gravelly coarse sandy loam	GP-GM	A-1	0	10-20	20-35	15-30	10-25	5-10	5-15	NP
	40-60	Stratified extremely gravelly loamy coarse sand to very gravelly sandy loam	GP, GP-GM	A-1	0	5-15	25-55	15-45	10-30	0-10	5-15	NP
209: Fortsage-----	0-10	Fine sandy loam	SM	A-4	0	0	100	100	65-80	35-50	20-30	NP-5
	10-60	Stratified fine sandy loam to silt loam	ML, SM	A-4	0	0	95-100	85-100	70-85	40-60	20-35	NP-10
210: Fortsage-----	0-2	Silt loam	ML	A-4	0	0	100	100	80-100	70-85	25-35	NP-10
	2-60	Stratified fine sandy loam to silt loam	ML, SM	A-4	0	0	95-100	85-100	70-85	40-60	20-35	NP-10

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
218: Gavel-----	0-4	Gravelly loam	ML, SM	A-4	5-10	0-15	70-90	65-85	55-80	40-65	25-35	NP-10
	4-26	Very gravelly loam, very cobbly loam	GC, GC-GM	A-4, A-6	0	15-30	55-70	50-65	45-60	35-50	25-40	5-15
	26-70	Weathered bedrock			---	---	---	---	---	---	---	---
219: Gavel-----	0-12	Very cobbly sandy loam	SM	A-2	15-25	25-45	75-85	55-70	35-50	25-35	20-30	NP-5
	12-27	Very gravelly loam, very cobbly loam	GC, GC-GM	A-4, A-6	0	15-30	55-70	50-65	45-60	35-50	25-40	5-15
	27-37	Weathered bedrock			---	---	---	---	---	---	---	---
Devada-----	0-7	Very cobbly loam	GC, GC-GM, SC, SC-SM	A-4, A-6, A-2	0-5	30-65	55-75	50-70	40-50	30-45	25-35	5-15
	7-15	Gravelly clay, clay	CH, GC	A-7	0	0-5	65-100	55-100	50-90	35-70	50-65	25-35
	15-19	Unweathered bedrock			---	---	---	---	---	---	---	---
220: Gerlach-----	0-3	Silty clay	CH	A-7	0	0	95-100	95-100	90-95	85-90	50-70	25-40
	3-52	Silty clay, clay	CH	A-7	0	0	95-100	95-100	90-95	85-90	50-70	25-40
	52-60	Clay loam, silty clay, clay	CH, CL	A-7	0	0	95-100	95-100	90-95	85-90	45-70	20-40
221: Gerlach-----	0-3	Cobbly silty clay	CH	A-7	0	20-40	90-100	85-95	80-90	75-85	50-70	25-40
	3-52	Silty clay, clay	CH	A-7	0	0	95-100	95-100	90-95	85-90	50-70	25-40
	52-60	Clay loam, silty clay, clay	CH, CL	A-7	0	0	95-100	95-100	90-95	85-90	45-70	20-40
222: Gerlach-----	0-3	Silty clay	CH	A-7	0	0	95-100	95-100	90-95	85-90	50-70	25-40
	3-52	Silty clay, clay	CH	A-7	0	0	95-100	95-100	90-95	85-90	50-70	25-40
	52-60	Clay loam, silty clay, clay	CH, CL	A-7	0	0	95-100	95-100	90-95	85-90	45-70	20-40
Ravendale-----	0-16	Silty clay	CH	A-7	0	0-5	95-100	95-100	90-100	70-95	50-70	25-40
	16-48	Silty clay, clay	CH	A-7	0	0	100	100	95-100	75-95	50-70	25-40
	48-60	Silty clay, clay, clay loam	CH, CL	A-7	0	0	95-100	95-100	90-100	70-95	45-70	20-40
223: Gerla-----	0-13	Gravelly sandy loam	SC-SM, SM	A-2, A-4	0	0-15	85-100	75-95	50-65	25-50	20-30	NP-10
	13-72	Sandy loam, gravelly sandy loam, gravelly coarse sandy loam	SC-SM, SM	A-2, A-4	0	0-15	85-100	75-95	50-65	25-50	20-30	NP-10

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
	In				Pct	Pct					Pct	
Searles-----	0-13	Very stony loam	GM, ML, SM	A-2, A-4	25-50	15-25	60-75	40-65	35-60	25-55	30-35	5-10
	13-29	Very cobbly clay loam, very gravelly clay loam, extremely gravelly clay loam	GC	A-2	0-5	25-60	30-50	25-45	20-35	15-30	30-40	10-15
	29-33	Unweathered bedrock			---	---	---	---	---	---	---	---
229: Glenbrook-----	0-3	Gravelly loamy coarse sand	SM, SP-SM	A-1	0	0-10	80-95	60-75	40-50	5-20	---	NP
	3-12	Coarse sand, gravelly sand, gravelly loamy coarse sand	SM, SP-SM	A-1	0	0-10	80-95	60-80	40-50	5-20	5-15	NP
	12-16	Weathered bedrock			---	---	---	---	---	---	---	---
Graufels-----	0-14	Bouldery sand	SM, SP-SM	A-1, A-2, A-3	10-25	0-5	85-95	75-85	40-60	5-15	---	NP
	14-22	Sand, gravelly loamy coarse sand, gravelly loamy sand	SM	A-1, A-2	0	0	85-90	60-80	30-55	10-20	5-15	NP
	22-26	Weathered bedrock			---	---	---	---	---	---	---	---
Rock Outcrop----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
230: Graufels-----	0-14	Bouldery sand	SM, SP-SM	A-1, A-2, A-3	10-25	0-5	85-95	75-85	40-60	5-15	---	NP
	14-22	Loamy sand, gravelly loamy coarse sand, gravelly loamy sand	SM	A-1, A-2	0	0	85-90	60-80	30-55	10-20	5-15	NP
	22-26	Weathered bedrock			---	---	---	---	---	---	---	---
Glenbrook-----	0-3	Sand	SM, SP-SM	A-1, A-2, A-3	0	0-5	90-100	85-95	40-55	5-20	5-15	NP
	3-12	Coarse sand, gravelly sand, gravelly loamy coarse sand	SM, SP-SM	A-1	0	0-10	80-95	60-80	40-50	5-20	5-15	NP
	12-16	Weathered bedrock			---	---	---	---	---	---	---	---
231: Hagata-----	0-6	Silt loam	ML	A-4	0	0	95-100	95-100	90-95	75-85	25-35	NP-10
	6-22	Silty clay	CH	A-7	0	0	100	100	95-100	90-95	50-60	25-30
	22-36	Weathered bedrock			0	0	---	---	---	---	5-15	---
	36-60	Loamy sand, sand	SM	A-2	0	0	95-100	95-100	50-70	10-25	5-15	NP
Playas-----	0-6	Silty clay	CH, CL, MH	A-7	0	0	100	100	100	90-100	45-75	20-40
	6-60	Silty clay loam, clay, silty clay	CH, CL, MH	A-7	0	0	100	100	100	90-100	45-75	20-40

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
236: Herjun-----	0-18	Loamy sand	SM	A-2	0	0	100	100	50-60	15-30	5-15	NP
	18-40	Sandy loam, loam	SM	A-4	0	0	100	100	55-70	35-50	20-30	NP-5
	40-53	Loamy sand	SM	A-2	0	0	100	100	50-60	15-30	5-15	NP
	53-60	Loam, silt loam	ML	A-4	0	0	100	100	85-95	80-90	25-35	NP-10
237: Herjun-----	0-10	Silt loam	ML	A-4	0	0	100	100	85-95	80-90	25-35	NP-10
	10-32	Sandy loam, loam	SM	A-4	0	0	100	100	55-70	35-50	20-30	NP-5
	32-60	Silt loam, loam	ML	A-4	0	0	100	100	85-95	80-90	25-35	NP-10
238: Highrock-----	0-5	Fine sandy loam	SM	A-4	0	0	95-100	95-100	85-90	35-50	5-15	NP
	5-10	Clay loam	CL, SC	A-6, A-7	0	0	95-100	95-100	85-95	40-65	35-45	20-25
	10-14	Sandy clay loam	CL, SC	A-6, A-7	0	0	95-100	85-90	75-85	30-50	35-45	15-20
	14-30	Loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	80-90	60-75	25-35	5-15
	30-60	Loam, clay loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	95-100	95-100	65-85	50-60	25-35	5-15
Mazuma-----	0-5	Loamy fine sand	SM	A-2, A-4	0	0	95-100	85-100	75-95	30-50	5-15	NP
	5-60	gravelly coarse sand to silt loam	SM	A-4	0	0	95-100	75-100	70-90	35-50	20-25	NP-5
Wespac-----	0-3	Fine sandy loam	SM	A-4	0	0	100	100	70-85	35-50	20-30	NP-5
	3-45	Sandy clay loam, clay loam, loam	CL, SC	A-6	0	0	100	100	80-90	40-65	30-40	10-20
	45-60	Stratified sand to fine sand	SM	A-2	0	0	100	100	50-70	10-20	5-15	NP
239: Highrock-----	0-5	Fine sandy loam	SM	A-4	0	0	95-100	95-100	85-90	35-50	5-15	NP
	5-8	Clay loam	CL, SC	A-6, A-7	0	0	95-100	95-100	85-95	40-65	35-45	20-25
	8-12	Sandy clay loam	CL, SC	A-6, A-7	0	0	95-100	85-90	75-85	30-50	35-45	15-20
	12-27	Loam	CL-ML, CL	A-4, A-6	0	0	95-100	95-100	80-90	60-75	25-35	5-15
	27-60	Loam, clay loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	95-100	95-100	65-85	50-60	25-35	5-15
Wespac-----	0-10	Fine sandy loam	SM	A-4	0	0	100	100	70-85	35-50	20-30	NP-5
	10-19	Sandy clay loam, clay loam	CL	A-6	0	0	100	100	80-90	40-65	30-40	10-20
	19-60	Loam	CL-ML, ML	A-4	0	0	100	100	85-95	50-65	25-35	5-10
Zorravista-----	0-4	Loamy sand	SM	A-2	0	0	100	100	55-70	15-30	5-15	NP
	4-60	Stratified fine sand to sand to loamy fine sand	SM, SP-SM	A-2, A-3	0	0	100	100	65-80	5-30	5-15	NP

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

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TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

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TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

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TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

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TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

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TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX--PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct					Pct	
	In											
277: Loomis-----	0-2	Very cobbly loam	GC, SC	A-2, A-6	10-25	30-55	60-80	50-65	40-60	25-50	30-35	10-15
	2-6	Very gravelly clay loam, very cobbly clay loam	GC	A-7	0	15-40	55-70	50-65	35-50	35-45	40-50	20-25
	6-11	Very gravelly clay, very cobbly clay	GC	A-2, A-7	0	0-55	35-70	30-50	25-50	25-50	50-65	25-35
	11-15	Unweathered bedrock			---	---	---	---	---	---	---	---
Rubble Land-----	0-60	Fragmental material	GP	A-1	35-45	40-50	0-10	0-5	0-5	0	---	---
278: Madeline-----	0-5	Very stony loam	CL, CL-ML, GM	A-4, A-6	15-25	10-25	80-90	75-85	60-75	40-60	25-35	5-15
	5-9	Gravelly clay loam	CH, CL, GC	A-7	0	0-5	60-80	50-75	45-55	35-40	45-50	20-25
	9-16	Gravelly clay	CH, CL, GC	A-7	0	0-5	60-80	50-75	50-70	40-60	55-60	25-35
	16-20	Unweathered bedrock			---	---	---	---	---	---	---	---
Glean-----	0-3	Very stony loam	GM, SM	A-2	15-30	5-15	55-70	50-65	40-55	25-35	20-30	NP-5
	3-44	Very gravelly loam, very gravelly sandy loam	GM	A-1, A-2	0	0-25	30-65	25-60	20-50	15-30	20-30	NP-5
	44-48	Unweathered bedrock			---	---	---	---	---	---	---	---
Devada-----	0-7	Very cobbly loam	GC, GC-GM, SC, SC-SM	A-2, A-4, A-6	0-5	30-65	55-75	50-70	40-50	30-45	25-35	5-15
	7-15	Gravelly clay, clay	CH, GC	A-7	0	0-5	65-100	55-100	50-90	35-70	50-65	25-35
	15-19	Unweathered bedrock			---	---	---	---	---	---	---	---
279: Madeline-----	0-5	Very stony loam	CL, CL-ML, GM	A-4, A-6	25-45	10-25	80-90	75-85	60-75	40-60	25-35	5-15
	5-9	Gravelly clay loam	CH, CL, GC	A-7	0	0-5	60-80	50-75	45-55	35-40	45-50	20-25
	9-16	Gravelly clay	CH, CL, GC	A-7	0	0-5	60-80	50-75	50-70	40-60	55-60	25-35
	16-20	Unweathered bedrock			---	---	---	---	---	---	---	---
Sumine-----	0-5	Cobbly loam	CL-ML	A-4	0	20-30	80-90	75-85	65-75	50-65	20-30	5-10
	5-11	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6, A-7	0	15-20	45-65	40-60	35-45	25-45	35-45	15-25
	11-24	Very cobbly clay loam	GC	A-2, A-6, A-7	0	30-40	50-70	45-65	40-50	30-45	35-45	15-25
	24-28	Unweathered bedrock			---	---	---	---	---	---	---	---
280: Massack-----	0-33	Loam	ML	A-4	0	0	90-100	85-100	75-90	50-60	25-35	NP-10
	33-60	Stratified loamy sand to very fine sandy loam	SM	A-2, A-4	0	0	90-100	85-100	50-85	30-50	20-30	NP-5

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
281: Mazuma-----	0-5	Loamy fine sand	SM	A-2, A-4	0	0	95-100	85-100	75-95	30-50	5-15	NP
	5-60	Stratified gravelly coarse sand to silt loam	SM	A-4	0	0	95-100	75-100	70-90	35-50	20-25	NP-5
282: Mazuma-----	0-7	Fine sandy loam	SM	A-2, A-4	0	0	100	100	70-90	30-50	20-25	NP-5
	7-30	Sandy loam, fine sandy loam	SM	A-2, A-4	0	0	100	100	90-100	30-50	20-25	NP-5
	30-60	Stratified gravelly coarse sand to silt loam	ML, SM	A-2, A-4	0	0	75-100	70-85	50-75	25-55	20-25	NP-5
283: Mcconnel-----	0-10	Gravelly fine sandy loam	GM	A-2, A-4	0	0	60-70	50-70	40-60	25-45	15-25	NP-5
	10-60	Stratified extremely gravelly coarse sand to very gravelly sandy loam	GP	A-1	0	0-15	25-35	10-35	5-15	0-5	5-15	NP
Mottsville-----	0-17	Gravelly loamy coarse sand	SM, SP-SM	A-1	0	0	80-100	55-75	20-35	5-15	---	NP
	17-60	Stratified gravelly coarse sand to loamy sand	SM, SP-SM	A-1	0	0	90-100	55-95	30-50	5-20	---	NP
284: Mcdermott-----	0-13	Silt loam	CL-ML, ML	A-4	0	0	100	100	85-95	60-75	25-35	5-10
	13-19	Clay loam	CL	A-6	0	0	100	100	85-90	70-75	30-40	10-20
	19-35	Silty clay loam	CL	A-6	0	0	100	100	90-95	80-85	30-40	10-20
	35-50	Clay loam, silty clay loam	CL	A-6	0	0	100	100	85-95	70-80	30-40	10-15
	50-60	Silt loam	CL	A-6	0	0	100	100	85-95	70-80	30-40	10-15
285: Modoc-----	0-16	Sandy loam	SM	A-4	0	0	80-100	75-100	55-80	35-50	20-30	NP-5
	16-28	Sandy clay loam, clay loam	CL, SC	A-6	0	0	80-100	75-100	60-90	35-65	30-40	10-20
	28-50	Indurated			---	---	---	---	---	---	---	---
	50-60	Stratified gravelly coarse sandy loam to very fine sandy loam	SM	A-1, A-2	0	0	60-95	50-90	30-60	20-35	20-30	NP-5
Truax-----	0-6	Sandy loam	SM	A-4	0	0-15	95-100	95-100	70-85	35-50	20-30	NP-5
	6-27	Sandy clay loam, loam	CL, CL-ML, SC, SC-SM	A-6, A-4	0	0-15	95-100	95-100	75-85	35-60	25-35	5-15
	27-41	Sandy loam	SM	A-4	0	0-15	95-100	95-100	60-70	35-50	20-30	NP-5
	41-52	Cemented			---	---	---	---	---	---	---	---
	52-60	Stratified gravelly sandy loam to sand	SM	A-1, A-2	0	0	95-100	90-95	50-60	25-35	10-20	NP

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
286: Mottsville-----	0-17	Loamy coarse sand	SM, SP-SM	A-1	0	0	80-100	75-90	25-40	5-20	5-15	NP
	17-60	Stratified gravelly coarse sand to loamy sand	SM, SP-SM	A-1	0	0	90-100	55-95	30-50	5-20	---	NP
287: Mottsville-----	0-17	Loamy coarse sand	SM, SP-SM	A-1	0	0	80-100	75-90	25-40	5-20	5-15	NP
	17-60	Stratified gravelly coarse sand to loamy sand	SM, SP-SM	A-1	0	0	90-100	55-95	30-50	5-20	---	NP
288: Mottsville-----	0-17	Gravelly loamy coarse sand	SM, SP-SM	A-1	0	0	80-100	55-75	20-35	5-15	---	NP
	17-60	Stratified gravelly coarse sand to loamy sand	SM, SP-SM	A-1	0	0	90-100	55-95	30-50	5-20	---	NP
289: Mottsville-----	0-17	Gravelly loamy coarse sand	SM, SP-SM	A-1	0	0	80-100	55-75	20-35	5-15	---	NP
	17-60	Stratified gravelly coarse sand to loamy sand	SM, SP-SM	A-1	0	0	90-100	55-95	30-50	5-20	---	NP
290: Mottsville-----	0-17	Gravelly loamy coarse sand	SM, SP-SM	A-1	0	0	80-100	55-75	20-35	5-15	---	NP
	17-60	Stratified gravelly coarse sand to loamy sand	SM, SP-SM	A-1	0	0	90-100	55-95	30-50	5-20	---	NP
291: Mottsville-----	0-17	Gravelly loamy coarse sand	SM, SP-SM	A-1	0	0	80-100	55-75	20-35	5-15	---	NP
	17-60	Stratified gravelly coarse sand to loamy sand	SM, SP-SM	A-1	0	0	90-100	55-95	30-50	5-20	---	NP
292: Mottsville-----	0-17	Gravelly loamy coarse sand	SM, SP-SM	A-1	0	0	80-100	55-75	20-35	5-15	---	NP
	17-60	Stratified gravelly coarse sand to loamy sand	SM, SP-SM	A-1	0	0	90-100	55-95	30-50	5-20	---	NP
Galeppi-----	0-18	Sandy loam	SM	A-2, A-4	0	0-10	95-100	90-100	55-70	30-40	15-25	NP-5
	18-36	Sandy clay loam, clay loam	CL, SC	A-6	0	0-10	95-100	90-100	75-90	35-60	30-40	10-15
	36-52	Sandy loam, loam	SM	A-2, A-4	0	0-10	95-100	90-100	55-70	25-50	20-30	NP-5
	52-60	Loamy sand	SM	A-2	0	0-10	95-100	90-100	55-70	15-25	5-15	NP

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

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TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

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TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

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TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
310: Penstock-----	0-12	Very gravelly sandy loam	GM	A-1, A-2	0-1	0-20	45-60	35-50	30-40	15-30	20-30	NP-5
	12-63	Very gravelly loam	GC-GM, GM	A-2	0-1	0-15	45-60	35-50	30-45	25-35	25-35	5-10
	63-73	Weathered bedrock			---	---	---	---	---	---	---	---
Deadwood-----	0-9	Very gravelly sandy loam	GM, GP-GM	A-1	0	0-5	30-55	25-50	10-30	5-20	20-30	NP-5
	9-16	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GM, GP-GM	A-1, A-2	0	10-40	20-55	15-45	10-40	5-30	25-35	NP-10
	16-20	Unweathered bedrock			---	---	---	---	---	---	---	---
311: Penstock-----	0-12	Very gravelly sandy loam	GM	A-1, A-2	0-1	0-20	45-60	35-50	30-40	15-30	20-30	NP-5
	12-63	Very gravelly loam	GC-GM, GM	A-2	0-1	10-40	45-60	35-50	30-45	25-35	25-35	5-10
	63-73	Weathered bedrock			---	---	---	---	---	---	---	---
Deadwood-----	0-9	Very gravelly sandy loam	GP-GM, GM	A-1	0	0-5	30-55	25-50	10-30	5-20	20-30	NP-5
	9-16	Very gravelly sandy loam, very gravelly loam, extremely gravelly sandy loam	GM, GP-GM	A-1, A-2	0	0-15	20-55	15-45	10-40	5-30	25-35	NP-10
	16-20	Unweathered bedrock			---	---	---	---	---	---	---	---
Rock Outcrop----	0-60	Unweathered bedrock			---	---	---	---	---	---	---	---
312: Penstock-----	0-12	Very gravelly loam, stony loam	GM	A-1, A-2	10-15	0-10	45-60	40-55	30-40	15-30	25-35	NP-10
	12-63	Very gravelly loam	GC-GM, GM	A-2	0-1	0-15	45-60	35-50	30-45	25-35	25-35	5-10
	63-73	Weathered bedrock			---	---	---	---	---	---	---	---
Scaribou-----	0-6	Very gravelly loam, stony loam	GM	A-1, A-2	5-10	15-20	40-50	30-40	25-35	20-30	20-30	NP-5
	6-17	Very cobbly loam	GC-GM, GM, SC-SM, SM	A-2, A-4	0-5	30-35	45-75	40-70	35-60	25-40	25-35	5-10
	17-60	Very cobbly clay loam, very gravelly clay loam	GC	A-2	0-1	15-45	35-60	30-55	25-50	20-35	30-40	10-20

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

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TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

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TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
	In				Pct	Pct					Pct	
Fredonyer-----	0-4	Very stony loam	GC-GM, GM, SC-SM, SM	A-4	10-20	20-30	60-80	55-75	40-60	35-50	25-35	5-10
	4-12	Very gravelly loam	GC-GM, GM	A-2, A-4	0-5	5-20	55-65	50-60	40-50	30-45	25-35	5-10
	12-28	Very cobbly loam	GC-GM, GM	A-2, A-4	0-5	30-45	60-65	55-60	40-50	30-45	25-35	5-10
	28-38	Unweathered bedrock			---	---	---	---	---	---	---	---
322: Petescreek-----	0-10	Gravelly loam	GC-GM, GM, SC-SM, SM	A-4	0	0-5	55-80	50-75	45-65	35-50	25-35	5-10
	10-17	Gravelly loam	SC-SM, SM	A-4	0	0-5	75-85	70-80	60-75	40-55	25-35	5-10
	17-27	Cobbly loam	SC-SM, SM	A-4	0	10-25	70-85	65-80	55-70	35-50	25-35	5-10
	27-60	Weathered bedrock			---	---	---	---	---	---	---	---
Searles-----	0-8	Very stony loam	GM, ML, SM	A-2, A-4	25-50	15-25	60-75	40-65	35-60	25-55	30-35	5-10
	8-40	Very cobbly clay loam, extremely cobbly loam, extremely gravelly clay loam	GC	A-2	0-5	25-60	30-50	25-45	20-35	15-30	30-40	10-15
	40-50	Unweathered bedrock			---	---	---	---	---	---	---	---
323: Petescreek-----	0-10	Gravelly loam	GC-GM, GM, SC-SM, SM	A-4	0	0-5	55-80	50-75	45-65	35-50	25-35	5-10
	10-17	Gravelly loam	SC-SM, SM	A-4	0	0-5	75-85	70-80	60-75	40-55	25-35	5-10
	17-27	Cobbly loam	SC-SM, SM	A-4	0	10-25	70-85	65-80	55-70	35-50	25-35	5-10
	27-60	Weathered bedrock			---	---	---	---	---	---	---	---
Searles-----	0-13	Very stony loam	GM, ML, SM	A-2, A-4	25-50	15-25	60-75	40-65	35-60	25-55	30-35	5-10
	13-29	Very cobbly clay loam, extremely cobbly loam, extremely gravelly clay loam	GC	A-2	0-5	25-60	30-50	25-45	20-35	15-30	30-40	10-15
	29-33	Unweathered bedrock			---	---	---	---	---	---	---	---
Orhood-----	0-4	Very stony loam	GM, SM	A-4	20-40	25-40	55-75	50-70	45-60	35-50	25-35	NP-5
	4-9	Very cobbly loam	GC, GC-GM, SC, SC-SM	A-4, A-6	20-40	20-40	55-75	50-70	45-65	35-50	25-35	5-15
	9-19	Very cobbly clay loam, very cobbly loam, very stony clay loam	GC, GC-GM	A-4, A-6	20-30	25-35	60-70	55-65	45-60	35-50	25-40	5-20
	19-23	Unweathered bedrock			---	---	---	---	---	---	---	---
324: Pit-----	0-24	Clay	CH, MH	A-7	0	0	100	100	95-100	85-95	50-65	20-35
	24-37	Clay, silty clay, silty clay loam	CH, CL	A-7	0	0	100	100	95-100	85-95	40-65	15-35
	37-60	Clay loam, silty clay loam	CL, ML	A-6, A-7	0	0	100	100	90-100	75-90	30-50	10-20

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Tunnison-----	0-1	Very cobbly clay	CH	A-7	1-5	40-50	75-90	70-85	65-85	60-85	60-75	40-50
	1-31	Clay	CH	A-7	0	0	100	100	95-100	90-95	60-75	40-50
	31-38	Weathered bedrock			---	---	---	---	---	---	---	---
	38-48	Unweathered bedrock			---	---	---	---	---	---	---	---
332: Quartzburg-----	0-7	Stony loamy sand	SM	A-1	10-20	0-8	60-70	55-75	25-45	10-20	5-15	NP
	7-26	Very gravelly loamy coarse sand, extremely gravelly loamy coarse sand	GM, GP-GM, SM, SP-SM	A-1	0	0	35-60	15-50	5-25	5-15	5-15	NP
	26-30	Weathered bedrock			---	---	---	---	---	---	---	---
Scaribou-----	0-12	Very gravelly loam	GM, SM	A-1	0	0-5	35-65	25-50	20-35	15-25	5-15	NP
	12-40	Very gravelly clay loam, very gravelly sandy clay loam	GC, SC	A-2	0	0-5	35-65	25-50	20-45	15-35	30-40	10-20
	40-60	Very gravelly clay	GC	A-2, A-7	0	0-5	35-65	25-50	20-45	15-40	40-60	20-35
333: Ravendale-----	0-16	Silty clay	CH	A-7	0	0-5	95-100	95-100	90-100	70-95	50-70	25-40
	16-48	Silty clay, clay	CH	A-7	0	0	100	100	95-100	75-95	50-70	25-40
	48-60	Silty clay, clay, clay loam	CH, CL	A-7	0	0	95-100	95-100	90-100	70-95	45-70	20-40
334: Ravendale-----	0-16	Silty clay	CH	A-7	0	0-5	95-100	95-100	90-100	70-95	50-70	25-40
	16-48	Silty clay, clay	CH	A-7	0	0	100	100	95-100	75-95	50-70	25-40
	48-60	Silty clay, clay, clay loam	CH, CL	A-7	0	0	95-100	95-100	90-100	70-95	45-70	20-40
335: Ravendale-----	0-16	Silty clay	CH	A-7	0	0-5	95-100	95-100	90-100	70-95	50-70	25-40
	16-48	Silty clay, clay	CH	A-7	0	0	100	95-100	95-100	75-95	50-70	25-40
	48-60	Silty clay, clay	CH, CL	A-7	0	0	95-100	95-100	90-100	70-95	45-70	20-40
336: Ravendale-----	0-16	Silty clay	CH	A-7	0	0-5	95-100	95-100	90-100	70-95	50-70	25-40
	16-48	Silty clay, clay	CH	A-7	0	0	100	100	95-100	75-95	50-70	25-40
	48-60	Silty clay, clay, clay loam	CH, CL	A-7	0	0	95-100	95-100	90-100	70-95	45-70	20-40

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

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TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

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TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
361: Shinnpeak-----	0-2	Very cobbly loam	GC, GC-GM	A-2, A-4	0-5	35-50	40-60	35-55	25-50	20-40	20-30	5-10
	2-13	Very gravelly sandy clay loam, very gravelly clay loam	GC	A-2, A-6	0-5	10-20	40-55	35-50	35-50	25-40	30-40	10-20
	13-22	Indurated			---	---	---	---	---	---	---	---
	22-60	Cemented			---	---	---	---	---	---	---	---
362: Smocreek-----	0-13	Silt loam	CL-ML, ML	A-4	0	0	100	90-100	85-95	70-85	25-35	5-10
	13-19	Silt loam	CL-ML, ML	A-4	0	0	100	95-100	90-100	85-90	25-35	5-10
	19-60	Silty clay loam	CL, ML	A-6, A-7	0	0	100	95-100	90-100	90-95	30-45	10-20
363: Smocreek-----	0-13	Silty clay loam	CL, ML	A-6, A-7	0	0	100	95-100	90-100	90-95	30-45	10-20
	13-19	Silt loam	CL-ML, ML	A-4	0	0	100	95-100	90-100	85-90	25-35	5-10
	19-60	Silty clay loam	CL, ML	A-6, A-7	0	0	100	95-100	90-100	90-95	30-45	10-20
364: Southpac-----	0-7	Very stony loam	GM, SM	A-4	20-30	10-20	60-80	50-75	45-65	35-50	25-35	NP-10
	7-35	Very gravelly loam, very cobbly loam, very stony loam	GC-GM, GM	A-2	0-5	5-35	50-60	45-55	40-45	25-35	25-35	5-10
	35-61	Gravelly clay loam, cobbly clay loam	CL, SC	A-6, A-7	0-1	5-30	75-90	65-80	60-75	45-55	30-45	10-20
365: Springmeyer-----	0-11	Sandy loam	SM	A-2, A-4	0	0-5	90-100	90-100	60-70	30-40	15-25	NP-5
	11-25	Clay loam, sandy clay loam, gravelly sandy clay loam	CL, SC	A-2, A-6, A-7	0	0-5	80-95	65-95	60-80	30-60	35-45	15-20
	25-60	Stratified gravelly loamy sand to sandy clay loam	SC	A-2	0	0-5	80-95	65-85	30-45	20-30	25-35	10-15
366: Springmeyer-----	0-15	Sandy clay loam	CL, SC	A-6	0	0-5	80-100	80-95	60-80	45-60	25-35	10-15
	15-46	Sandy clay loam, clay loam, gravelly sandy clay loam	CL, SC	A-2, A-6, A-7	0	0-5	80-95	65-95	60-80	30-60	35-45	15-20
	46-60	Stratified gravelly loamy sand to sandy clay loam	SC	A-2	0	0-5	80-95	65-85	30-45	20-30	25-35	10-15
367: Stacy-----	0-17	Fine sandy loam	SM	A-4	0	0	95-100	95-100	75-85	35-50	20-30	NP-5
	17-50	Stratified sandy loam to loam	SM	A-4	0	0	95-100	95-100	60-80	35-50	20-30	NP-5
	50-62	Stratified gravelly sand to sand	SP-SM	A-1	0	0	90-95	60-85	40-50	5-10	5-15	NP

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Lasco-----	0-9	Gravelly loamy coarse sand	SM	A-1	0	0	75-85	50-75	30-50	10-25	5-15	NP
	9-49	Gravelly sandy loam	SC-SM, SM	A-2	0	0	75-85	50-75	40-60	25-35	20-30	NP-10
	49-59	Weathered bedrock			---	---	---	---	---	---	---	---
Quartzburg-----	0-7	Stony loamy sand	SM	A-1	10-20	0-8	60-70	55-75	25-45	10-20	---	NP
	7-26	Very gravelly loamy coarse sand, extremely gravelly loamy coarse sand	GM, GP-GM, SM, SP-SM	A-1	0	0	35-60	15-50	5-25	5-15	---	NP
	26-30	Weathered bedrock			---	---	---	---	---	---	---	---
383: Toiyabe-----	0-7	Gravelly loamy coarse sand	SM, SP-SM	A-1	0	0-10	75-85	60-75	30-50	5-20	---	NP
	7-15	Gravelly loamy coarse sand, loamy coarse sand, sand	SM, SP-SM	A-1	0-5	0-15	70-100	60-85	20-50	5-20	5-15	NP
	15-19	Weathered bedrock			---	---	---	---	---	---	---	---
Lasco-----	0-9	Gravelly loamy coarse sand	SM	A-1	0	0	75-85	50-75	30-50	10-25	5-15	NP
	9-49	Gravelly sandy loam	SC-SM, SM	A-2	0	0	75-85	50-75	40-60	25-35	20-30	NP-10
	49-59	Weathered bedrock			---	---	---	---	---	---	---	---
384: Torriorthents---	0-3	Loam	ML	A-2	0	0	90-100	90-100	75-95	55-70	5-15	NP
	3-60	Stratified silty clay loam to loamy sand	CL, CL-ML, SM, SW-SM	A-2, A-4	0	0	70-100	50-100	10-90	5-85	15-30	NP-10
Zorravista-----	0-4	Loamy sand	SM	A-2	0	0	100	100	55-70	15-30	5-15	NP
	4-60	Stratified fine sand to sand to loamy fine sand	SM, SP-SM	A-2, A-3	0	0	100	100	65-80	5-30	5-15	NP
385: Truax-----	0-11	Sandy loam	SM	A-4	0	0-15	95-100	95-100	70-85	35-50	20-30	NP-5
	11-38	Sandy clay loam, loam	CL, CL-ML, SC, SC-SM	A-4, A-6	0	0-15	95-100	95-100	75-85	35-60	25-35	5-15
	38-50	Sandy loam	SM	A-4	0	0-15	95-100	95-100	60-70	35-50	20-30	NP-5
	50-52	Cemented			---	---	---	---	---	---	---	---
	52-60	Stratified gravelly sandy loam to sand	SM	A-1, A-2	0	0	95-100	90-95	50-60	25-35	10-20	NP
386: Truckee-----	0-17	Loam	ML	A-4	0	0	100	100	85-95	50-65	25-35	NP-10
	17-69	Stratified sandy loam to silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-95	60-75	25-35	5-15

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Diaz-----	0-3	Very cobbly silt loam	CL-ML, ML	A-4	0-10	30-45	70-80	65-75	60-70	50-60	25-35	5-10
	3-7	Silty clay loam	CL	A-6	0	0-5	80-100	75-95	70-90	65-75	30-40	10-20
	7-25	Silty clay, clay	CH	A-7	0	0	80-100	75-95	70-90	65-85	50-70	25-40
	25-32	Unweathered bedrock			---	---	---	---	---	---	---	---
Brubeck-----	0-2	Very cobbly clay	CH	A-7	5-10	35-45	85-95	75-85	70-85	65-80	50-70	25-40
	2-32	Clay, silty clay	CH	A-7	0	0	100	95-100	90-100	75-95	50-70	25-40
	32-42	Unweathered bedrock			---	---	---	---	---	---	---	---
404: Wylo-----	0-7	Very stony loam	GC-GM, GM, SC-SM, SM	A-2, A-4	5-25	0-15	60-85	50-80	40-60	30-50	25-35	5-10
	7-11	Gravelly clay loam	GC, SC	A-7	0-5	10-15	60-80	55-70	50-65	35-45	40-50	15-25
	11-15	Gravelly clay, cobbly clay	GC, SC	A-7	0-5	15-30	60-90	55-85	50-70	35-50	40-50	15-25
	15-19	Unweathered bedrock			---	---	---	---	---	---	---	---
Pickup-----	0-10	Very stony loam	GC, GC-GM	A-2	15-25	10-20	55-65	40-55	30-45	20-35	25-35	5-15
	10-26	Very gravelly clay	GC	A-2, A-7	0-5	10-25	50-65	35-50	30-50	25-45	45-60	20-30
	26-30	Unweathered bedrock			---	---	---	---	---	---	---	---
Bucklake-----	0-8	Very stony loam	CL, CL-ML, SC, SC-SM	A-4, A-6	15-30	10-30	70-85	65-80	55-70	40-55	25-35	5-15
	8-12	Gravelly clay loam	CL, GC	A-6	0	0-10	55-75	50-70	45-65	40-55	30-40	10-20
	12-24	Gravelly clay, gravelly clay loam	CH, CL, GC	A-7	0	0-10	55-75	50-70	45-65	40-60	40-60	20-35
	24-34	Unweathered bedrock			---	---	---	---	---	---	---	---
405: Xerolls-----	0-11	Loamy coarse sand	CL-ML, ML, SM, SW-SM	A-4	0	0	75-100	75-100	45-85	10-60	5-15	NP
	11-60	Stratified coarse sand to loam	CL, CL-ML, SM, SW-SM	A-1, A-2, A- 3, A-4	0	0	75-100	75-100	40-85	5-60	0-30	NP-10
Aquolls-----	0-7	Gravelly sandy loam	SC-SM, GM, SM	A-1, A-2	0	0	60-80	50-75	35-50	15-30	10-20	NP-10
	7-38	Gravelly loam, gravelly sandy loam	SC-SM, GW-GM, SC, SM, SW- SM	A-1, A-2	0	0	70-80	55-75	30-50	10-30	10-30	NP-10
	38-60	Very gravelly sand	GW-GM, SC, SM, SW-SM	A-1, A-2	0	0	50-70	30-45	25-45	5-25	10-20	NP-5
406: Yobe-----	0-4	Silt loam	ML	A-4, A-6	0	0	100	95-100	95-100	75-90	30-40	5-15
	4-60	Stratified very fine sandy loam to silty clay loam	CL	A-6	0	0	100	95-100	95-100	85-90	30-40	10-20
407: Zorravista-----	0-4	Loamy sand	SM	A-2	0	0	100	100	55-70	15-30	5-15	NP
	4-60	Stratified fine sand to sand to loamy fine sand	SM, SP-SM	A-2, A-3	0	0	100	100	65-80	5-30	5-15	NP

TABLE 17.--ENGINEERING INDEX PROPERTIES--Continued

[illegible]

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
101: Almanor-----	0-5	---	0.70-0.80	2-6	0.07-0.10	0.0-2.9	3.0-7.0	.10	.24	3	8	0
	5-17	---	0.80-0.85	2-6	0.07-0.10	0.0-2.9	1.0-4.0	.10	.24			
	17-40	---	0.80-0.85	2-6	0.07-0.10	0.0-2.9	1.0-4.0	.10	.24			
	40-50	---	---	0.0000-0.01	---	---	---	---	---			
Whorled-----	0-5	8-12	0.70-0.80	2-6	0.05-0.07	0.0-2.9	3.0-7.0	.10	.24	2	8	0
	5-27	8-15	0.80-0.85	2-6	0.03-0.07	0.0-2.9	1.0-4.0	.10	.24			
	27-31	---	---	---	---	---	---	---	---			
Inville-----	0-10	10-15	1.35-1.45	0.6-2	0.07-0.11	0.0-2.9	1.0-2.0	.15	.32	4	8	0
	10-44	15-25	1.20-1.30	0.6-2	0.04-0.08	0.0-2.9	0.5-1.0	.05	.32			
	44-60	---	---	0.06-0.2	---	---	---	---	---			
102: Alomax, very stony sandy loam-----	0-3	10-15	1.45-1.55	2-6	0.06-0.08	0.0-2.9	1.0-2.0	.10	.24	1	6	48
	3-15	10-15	1.45-1.55	2-6	0.04-0.06	0.0-2.9	1.0-2.0	.10	.24			
	15-25	---	---	0.0000-0.01	---	---	---	---	---			
Glean-----	0-14	8-18	1.20-1.25	2-6	0.08-0.12	0.0-2.9	1.0-3.0	.15	.24	3	8	0
	14-44	8-18	1.25-1.35	2-6	0.06-0.10	0.0-2.9	1.0-3.0	.10	.24			
	44-48	---	---	0.0000-0.01	---	---	---	---	---			
Rock outcrop-----	0-60	---	---	---	---	---	---	---	---	-	8	0
103: Anawalt-----	0-4	20-27	1.20-1.30	0.6-2	0.07-0.11	0.0-2.9	1.0-2.0	.15	.32	1	8	0
	4-16	35-60	1.20-1.30	0.06-0.2	0.10-0.18	6.0-8.9	0.5-1.0	.20	.37			
	16-20	---	---	---	---	---	---	---	---			
Ninemile-----	0-2	15-25	1.35-1.50	0.6-2	0.08-0.11	0.0-2.9	2.0-4.0	.15	.55	1	8	0
	2-11	40-60	1.25-1.45	0.0029-0.06	0.14-0.16	6.0-8.9	1.0-3.0	.28	.37			
	11-18	40-60	1.25-1.45	0.0029-0.06	0.14-0.16	6.0-8.9	1.0-3.0	.28	.37			
	18-22	---	---	0.0000-0.01	---	---	---	---	---			
104: Ardep-----	0-6	8-15	1.45-1.55	2-6	0.10-0.13	0.0-2.9	1.0-2.0	.32	.32	5	3	86
	6-34	8-15	1.40-1.50	2-6	0.14-0.17	0.0-2.9	0.5-1.0	.37	.37			
	34-60	0-10	1.50-1.70	2-6	0.04-0.06	0.0-2.9	0.0-0.5	.24	.24			
105: Ardep-----	0-6	8-15	1.40-1.55	2-6	0.10-0.13	0.0-2.9	1.0-2.0	.32	.32	5	3	86
	6-34	8-15	1.40-1.55	2-6	0.08-0.10	0.0-2.9	0.0-0.5	.37	.37			
	34-60	0-10	1.50-1.70	2-6	0.04-0.06	0.0-2.9	0.0-0.5	.24	.24			
106: Ardep-----	0-6	8-15	1.45-1.55	2-6	0.08-0.10	0.0-2.9	1.0-2.0	.37	.37	5	3	86
	6-20	8-15	1.40-1.50	2-6	0.10-0.12	0.0-2.9	0.5-1.0	.37	.37			
	20-60	0-10	1.50-1.70	2-6	0.04-0.06	0.0-2.9	0.0-0.5	.28	.28			
107: Ardep-----	0-3	0-5	1.45-1.55	2-6	0.10-0.13	0.0-2.9	1.0-2.0	.32	.32	5	5	56
	3-59	8-15	1.40-1.50	2-6	0.08-0.10	0.0-2.9	0.0-0.5	.37	.37			
	59-60	0-10	1.50-1.70	2-6	0.04-0.06	0.0-2.9	0.0-0.5	.24	.24			
108: Ardep-----	0-5	8-15	1.45-1.55	2-6	0.10-0.13	0.0-2.9	1.0-2.0	.32	.32	5	3	86
	5-36	8-15	1.40-1.50	2-6	0.14-0.17	0.0-2.9	0.5-1.0	.37	.37			
	36-60	0-10	1.50-1.70	2-6	0.04-0.06	0.0-2.9	0.0-0.5	.24	.24			
Wespac-----	0-5	0-5	1.55-1.65	6-20	0.06-0.08	0.0-2.9	1.0-2.0	.28	.28	5	1	180
	5-12	27-35	1.40-1.55	0.06-0.2	0.14-0.16	3.0-5.9	0.5-1.0	.37	.37			
	12-60	15-25	1.45-1.55	0.6-2	0.09-0.12	0.0-2.9	0.0-0.5	.49	.49			
Zorravista-----	0-4	0-5	1.45-1.60	20-20	0.05-0.07	0.0-2.9	0.5-1.0	.17	.17	5	1	250
	4-60	0-5	1.50-1.65	20-20	0.05-0.07	0.0-2.9	0.0-0.5	.17	.17			
109: Artray-----	0-9	5-10	1.45-1.55	2-6	0.10-0.13	0.0-2.9	2.0-4.0	.20	.24	4	3	86
	9-48	5-10	1.45-1.55	2-6	0.09-0.13	0.0-2.9	1.0-3.0	.24	.24			
	48-60	0-5	1.60-1.70	20-20	0.05-0.07	0.0-2.9	1.0-3.0	.17	.17			
110: Badenaugh-----	0-13	10-20	1.45-1.55	2-6	0.08-0.10	0.0-2.9	1.0-3.0	.20	.24	5	8	0
	13-29	25-35	1.40-1.50	0.2-0.6	0.07-0.10	0.0-2.9	0.5-1.0	.10	.37			
	29-60	15-30	1.50-1.60	0.6-2	0.03-0.07	0.0-2.9	0.0-0.5	.10	.24			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
111: Baileycreek-----	0-9	10-15	1.40-1.50	2-6	0.09-0.12	0.0-2.9	2.0-4.0	.15	.37	3	8	0
	9-30	20-26	1.40-1.50	0.6-2	0.06-0.11	0.0-2.9	1.0-2.0	.10	.37			
	30-60	---	---	0.0000-0.01	---	---	---	---	---			
Waste-----	0-12	10-15	1.35-1.50	2-6	0.08-0.11	0.0-2.9	2.0-4.0	.10	.24	2	8	0
	12-26	20-25	1.35-1.50	0.6-2	0.06-0.10	0.0-2.9	1.0-2.0	.10	.37			
	26-30	---	---	0.0000-0.01	---	---	---	---	---			
112: Baileycreek-----	0-9	10-15	1.40-1.50	2-6	0.09-0.12	0.0-2.9	2.0-4.0	.15	.37	3	8	0
	9-23	20-27	1.40-1.50	0.6-2	0.06-0.11	0.0-2.9	1.0-2.0	.10	.37			
	23-27	---	---	0.0000-0.01	---	---	---	---	---			
Waste-----	0-12	10-15	1.35-1.50	2-6	0.08-0.11	0.0-2.9	2.0-4.0	.10	.24	2	8	0
	12-34	20-25	1.35-1.50	0.6-2	0.06-0.10	0.0-2.9	1.0-2.0	.10	.37			
	34-38	---	---	0.0000-0.01	---	---	---	---	---			
113: Baileycreek-----	0-10	10-15	1.40-1.50	2-6	0.09-0.12	0.0-2.9	2.0-4.0	.15	.37	3	8	0
	10-21	20-26	1.40-1.50	0.6-2	0.06-0.11	0.0-2.9	1.0-2.0	.10	.37			
	21-25	---	---	0.0000-0.01	---	---	---	---	---			
Waste-----	0-14	10-15	1.35-1.50	2-6	0.08-0.11	0.0-2.9	2.0-4.0	.10	.24	2	8	0
	14-29	20-25	1.35-1.50	0.6-2	0.06-0.10	0.0-2.9	1.0-2.0	.10	.37			
	29-33	---	---	0.0000-0.01	---	---	---	---	---			
114: Barnard-----	0-3	5-15	1.10-1.30	0.6-2	0.16-0.19	0.0-2.9	1.0-2.0	.20	.32	2	4	86
	3-7	5-10	1.10-1.30	0.6-2	0.13-0.16	0.0-2.9	0.5-1.0	.32	.32			
	7-11	20-30	1.40-1.55	0.2-0.6	0.10-0.12	3.0-5.9	0.5-1.0	.32	.32			
	11-20	40-50	1.30-1.50	0.06-0.2	0.14-0.17	6.0-8.9	0.5-1.0	.28	.28			
	20-26	---	---	0.0000-0.01	0.00-0.00	---	---	---	---			
	26-60	0-5	1.50-1.60	6-20	0.00-0.00	0.0-2.9	0.2-0.5	.05	.10			
115: Beckwourth-----	0-12	5-10	1.55-1.65	6-20	0.06-0.08	0.0-2.9	1.0-2.0	.15	.15	3	2	134
	12-21	10-18	1.50-1.60	0.6-2	0.09-0.11	0.0-2.9	0.5-1.0	.20	.20			
	23-60	5-10	1.60-1.70	6-20	0.05-0.08	0.0-2.9	0.5-1.0	.20	.20			
Fordney-----	0-10	5-15	1.30-1.40	2-6	0.09-0.14	0.0-2.9	1.0-3.0	.15	.15	5	2	134
	10-60	5-15	1.30-1.40	6-20	0.09-0.14	0.0-2.9	0.0-2.0	.15	.15			
116: Bieber-----	0-6	18-27	1.40-1.55	0.6-2	0.09-0.11	3.0-5.9	1.0-2.0	.17	.24	1	8	0
	6-11	35-45	1.35-1.45	0.0029-0.06	0.14-0.16	6.0-8.9	0.0-0.5	.24	.37			
	11-18	35-45	1.35-1.45	0.0029-0.06	0.14-0.16	6.0-8.9	0.0-0.5	.24	.37			
	18-60	0-0	---	---	---	---	---	---	---			
117: Biscaro-----	0-10	27-30	1.35-1.45	0.2-0.6	0.16-0.18	3.0-5.9	1.0-2.0	.32	.32	3	6	48
	10-21	35-50	1.30-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.5-1.0	.28	.28			
	21-38	15-25	1.40-1.50	0.2-0.6	0.14-0.17	3.0-5.9	0.5-1.0	.28	.28			
	38-60	0-0	---	0.01-0.02	0.00-0.00	---	---	---	---			
118: Biscaro-----	0-10	10-15	1.45-1.55	2-6	0.09-0.11	0.0-2.9	1.0-2.0	.24	.24	3	3	86
	10-21	35-50	1.30-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.5-1.0	.28	.28			
	21-38	15-25	1.40-1.50	0.2-0.6	0.14-0.17	3.0-5.9	0.5-1.0	.28	.28			
	38-60	0-0	---	0.01-0.02	0.00-0.00	---	---	---	---			
Calnat-----	0-8	0-5	1.50-1.60	6-20	0.07-0.09	0.0-2.9	1.0-2.0	.20	.20	3	2	134
	8-25	20-25	1.45-1.55	0.2-0.6	0.08-0.11	3.0-5.9	0.5-1.0	.32	.32			
	25-38	18-25	1.40-1.50	0.6-2	0.02-0.03	0.0-2.9	0.5-1.0	.55	.55			
	38-42	---	---	---	---	---	---	---	---			
119: Biscaro-----	0-2	15-20	1.40-1.50	0.6-2	0.15-0.19	0.0-2.9	0.5-1.0	.49	.49	3	6	48
	2-27	35-50	1.30-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.5-1.0	.28	.28			
	27-37	15-25	1.40-1.50	0.6-2	0.02-0.07	0.0-2.9	0.5-1.0	.10	.37			
	37-60	---	---	---	---	---	---	---	---			
Playas, silty clay--	0-6	35-70	---	0.01-0.06	0.02-0.04	6.0-8.9	0.0-0.1	.37	.37	5	5	56
	6-60	35-70	---	0.01-0.06	0.02-0.04	6.0-8.9	---	.37	.37			
120: Blickenstaff-----	0-15	10-18	1.45-1.55	2-6	0.09-0.12	0.0-2.9	1.0-2.0	.24	.32	5	3	86
	15-34	10-18	1.50-1.60	2-6	0.07-0.10	0.0-2.9	0.0-0.5	.24	.24			
	34-60	10-15	1.50-1.60	2-6	0.07-0.10	0.0-2.9	0.0-0.5	.24	.24			
122: Bohert-----	0-6	10-15	1.45-1.55	2-6	0.10-0.12	0.0-2.9	1.0-2.0	.24	.24	5	3	86
	6-14	25-30	1.40-1.50	0.06-0.2	0.08-0.14	3.0-5.9	0.5-1.0	.32	.32			
	14-26	5-20	1.45-1.55	0.2-0.6	0.08-0.11	0.0-2.9	0.0-0.5	.28	.28			
	26-60	5-20	1.45-1.55	0.2-0.6	0.08-0.11	0.0-2.9	0.0-0.5	.28	.28			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
121, Honeylake-----	0-16	27-32	1.35-1.45	0.2-0.6	0.14-0.16	3.0-5.9	1.0-2.0	.37	.37	5	4L	86
	16-26	10-18	1.45-1.55	2-6	0.08-0.10	0.0-2.9	0.5-1.0	.20	.24			
	26-41	10-18	1.50-1.60	2-6	0.07-0.10	0.0-2.9	0.0-0.5	.20	.24			
	41-56	10-18	1.50-1.60	2-6	0.07-0.10	0.0-2.9	0.0-0.5	.20	.24			
	56-67	8-18	1.50-1.60	2-6	0.06-0.08	0.0-2.9	0.0-0.5	.17	.24			
123, Robert-----	0-4	10-15	1.40-1.55	2-6	0.09-0.11	0.0-2.9	1.0-2.0	.32	.32	5	3	86
	4-20	25-30	1.35-1.55	0.06-0.2	0.09-0.14	3.0-5.9	0.5-1.0	.32	.32			
	20-28	20-25	1.45-1.55	0.2-0.6	0.09-0.13	0.0-2.9	0.0-0.5	.28	.28			
	28-60	5-20	1.45-1.55	0.2-0.6	0.08-0.13	0.0-2.9	0.0-0.5	.20	.20			
124, Bonta-----	0-12	5-10	1.50-1.60	2-6	0.08-0.11	0.0-2.9	0.5-1.0	.28	.28	3	3	86
	12-36	12-18	1.50-1.60	2-6	0.09-0.12	0.0-2.9	0.5-1.0	.28	.28			
	36-40	---	---	0.0000-0.01	---	---	---	---	---			
125, Bonta-----	0-12	5-10	1.50-1.60	2-6	0.08-0.11	0.0-2.9	0.5-1.0	.28	.28	3	3	86
	12-36	12-18	1.50-1.60	2-6	0.09-0.12	0.0-2.9	0.5-1.0	.28	.28			
	36-40	---	---	0.0000-0.01	---	---	---	---	---			
126, Bonta-----	0-12	5-10	1.50-1.60	2-6	0.08-0.10	0.0-2.9	0.5-1.0	.20	.24	3	4	86
	12-34	12-18	1.50-1.60	2-6	0.08-0.10	0.0-2.9	0.5-1.0	.20	.24			
	34-38	---	---	0.0000-0.01	---	---	---	---	---			
127, Boulder Lake-----	0-12	40-60	1.20-1.30	0.0017-0.06	0.14-0.15	6.0-8.9	1.0-2.0	.20	.20	5	8	0
	12-43	40-60	1.20-1.40	0.0017-0.06	0.14-0.15	6.0-8.9	0.5-1.0	.20	.20			
	43-60	30-40	1.40-1.50	0.2-0.6	0.18-0.21	3.0-5.9	0.0-0.5	.43	.43			
128, Boulder Lake-----	0-12	40-60	1.20-1.30	0.0017-0.06	0.14-0.15	6.0-8.9	1.0-2.0	.20	.20	5	8	0
	12-43	40-60	1.20-1.40	0.0017-0.06	0.14-0.15	6.0-8.9	0.5-1.0	.20	.20			
	43-60	30-40	1.40-1.50	0.2-0.6	0.18-0.21	3.0-5.9	0.0-0.5	.43	.43			
129, Brubeck-----	0-2	40-60	1.10-1.25	0.06-0.2	0.07-0.10	6.0-8.9	1.0-2.0	.15	.37	2	8	0
	2-32	40-60	1.15-1.30	0.06-0.2	0.14-0.16	6.0-8.9	0.5-1.0	.28	.28			
	32-42	---	---	0.01-20	---	---	---	---	---			
130, Brubeck-----	0-2	40-60	1.10-1.25	0.06-0.2	0.07-0.10	6.0-8.9	1.0-2.0	.15	.37	2	8	0
	2-32	40-60	1.15-1.30	0.06-0.2	0.14-0.16	6.0-8.9	0.5-1.0	.28	.28			
	32-42	---	---	0.01-20	---	---	---	---	---			
131, Brubeck-----	0-2	40-60	1.10-1.25	0.06-0.2	0.07-0.10	6.0-8.9	1.0-2.0	.15	.37	2	8	0
	2-32	40-60	1.15-1.30	0.06-0.2	0.14-0.16	6.0-8.9	0.5-1.0	.28	.28			
	32-42	---	---	0.01-20	---	---	---	---	---			
Diaz-----	0-3	18-27	1.35-1.50	0.6-2	0.08-0.10	0.0-2.9	1.0-2.0	.17	.55	2	8	0
	3-7	27-35	1.30-1.45	0.2-0.6	0.17-0.19	3.0-5.9	0.5-1.0	.37	.55			
	7-25	40-60	1.25-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.5-1.0	.24	.37			
	25-32	---	---	---	---	---	---	---	---			
132, Brubeck-----	0-2	40-60	1.10-1.25	0.06-0.2	0.07-0.10	6.0-8.9	1.0-2.0	.15	.37	2	8	0
	2-32	40-60	1.15-1.30	0.06-0.2	0.14-0.16	6.0-8.9	0.5-1.0	.28	.28			
	32-42	---	---	0.01-20	---	---	---	---	---			
Loomis-----	0-2	18-25	1.20-1.35	0.6-2	0.05-0.12	0.0-2.9	1.0-2.0	.10	.43	1	7	38
	2-6	35-40	1.30-1.45	0.2-0.6	0.12-0.18	3.0-5.9	0.5-1.0	.10	.32			
	6-11	40-60	1.15-1.35	0.06-0.2	0.04-0.10	3.0-5.9	0.5-1.0	.05	.37			
	11-15	---	---	0.0000-0.01	---	---	---	---	---			
133, Buckbay-----	0-12	15-20	1.40-1.50	0.6-2	0.10-0.13	0.0-2.9	1.0-2.0	.24	.37	3	8	0
	12-22	20-30	1.35-1.45	0.6-2	0.10-0.14	3.0-5.9	1.0-2.0	.24	.37			
	22-29	20-30	1.35-1.45	0.6-2	0.10-0.14	3.0-5.9	1.0-2.0	.24	.37			
	29-39	---	---	---	---	---	---	---	---			
Orhood-----	0-4	10-15	1.40-1.50	0.6-2	0.07-0.10	0.0-2.9	1.0-3.0	.10	.28	1	7	38
	4-9	18-27	1.40-1.55	0.6-2	0.07-0.10	0.0-2.9	1.0-2.0	.10	.28			
	9-19	18-32	1.40-1.50	0.2-0.6	0.07-0.11	0.0-2.9	0.5-1.0	.10	.32			
	19-23	---	---	---	---	---	---	---	---			
Devada-----	0-7	15-27	1.10-1.30	0.6-2	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	7-15	40-60	1.20-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	15-19	---	---	0.0000-0.01	---	---	---	---	---			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
134: Buckbay-----	0-11	15-20	1.40-1.50	0.6-2	0.10-0.13	0.0-2.9	1.0-2.0	.24	.37	3	8	0
	11-19	20-30	1.35-1.45	0.6-2	0.10-0.14	3.0-5.9	1.0-2.0	.24	.37			
	19-29	20-30	1.35-1.45	0.6-2	0.10-0.14	3.0-5.9	1.0-2.0	.24	.37			
	29-33	---	---	---	---	---	---	---	---			
Orhood-----	0-4	10-15	1.40-1.50	0.6-2	0.07-0.10	0.0-2.9	1.0-3.0	.10	.28	1	7	38
	4-9	18-27	1.40-1.55	0.6-2	0.07-0.10	0.0-2.9	1.0-2.0	.10	.28			
	9-19	18-32	1.40-1.50	0.2-0.6	0.07-0.11	0.0-2.9	0.5-1.0	.10	.32			
	19-23	---	---	---	---	---	---	---	---			
Fredonyer-----	0-4	15-22	1.35-1.50	0.6-2	0.07-0.09	0.0-2.9	1.0-3.0	.15	.37	2	8	0
	4-12	18-25	1.35-1.50	0.6-2	0.07-0.09	0.0-2.9	1.0-2.0	.15	.37			
	12-28	18-25	1.35-1.50	0.6-2	0.07-0.10	0.0-2.9	1.0-2.0	.15	.37			
	28-38	---	---	---	---	---	---	---	---			
135: Bucklake-----	0-8	20-25	1.45-1.55	0.6-2	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37	2	8	0
	8-12	27-35	1.40-1.55	0.2-0.6	0.11-0.14	3.0-5.9	0.5-1.0	.20	.28			
	12-24	35-50	1.35-1.50	0.06-0.2	0.10-0.12	6.0-8.9	0.5-1.0	.20	.28			
	24-34	---	---	---	---	---	---	---	---			
Corral-----	0-4	15-25	1.35-1.50	0.6-2	0.09-0.12	0.0-2.9	1.0-2.0	.17	.37	2	8	0
	4-12	20-35	1.35-1.50	0.2-0.6	0.06-0.09	3.0-5.9	0.5-1.0	.32	.37			
	12-22	---	---	0.0000-0.01	---	---	---	---	---			
Rubble land-----	0-60	0-0	1.70-2.35	20-20	0.00-0.10	0.0-2.9	0.0-0.1	---	---	5	8	0
136: Bunanch-----	0-7	15-20	1.35-1.45	0.6-2	0.08-0.11	0.0-2.9	1.0-3.0	.10	.37	5	8	0
	7-22	30-40	1.35-1.45	0.2-0.6	0.07-0.11	3.0-5.9	0.5-1.0	.10	.43			
	22-63	40-50	1.30-1.40	0.06-0.2	0.06-0.09	3.0-5.9	0.5-1.0	.10	.37			
137: Cagwin-----	0-8	0-5	1.00-1.25	6-20	0.05-0.08	0.0-2.9	2.0-5.0	.15	.20	3	8	0
	8-36	0-5	1.30-1.50	6-20	0.04-0.07	0.0-2.9	1.0-2.0	.10	.20			
	36-39	---	---	---	---	---	---	---	---			
138: Cagwin-----	0-8	0-5	1.00-1.25	6-20	0.05-0.08	0.0-2.9	2.0-5.0	.15	.20	3	8	0
	8-36	0-5	1.30-1.50	6-20	0.04-0.07	0.0-2.9	1.0-2.0	.10	.20			
	36-39	---	---	---	---	---	---	---	---			
139: Calnat-----	0-5	10-15	1.45-1.55	2-6	0.10-0.12	0.0-2.9	1.0-2.0	.24	.24	3	3	86
	5-13	20-25	1.45-1.55	0.2-0.6	0.08-0.11	3.0-5.9	0.5-1.0	.32	.32			
	13-28	18-25	1.40-1.50	0.6-2	0.02-0.03	0.0-2.9	0.5-1.0	.55	.55			
	28-60	---	---	---	---	---	---	---	---			
140: Calneva-----	0-6	15-20	1.35-1.50	0.2-0.6	0.13-0.15	0.0-2.9	0.0-0.5	.55	.55	2	4L	86
	6-16	35-50	1.25-1.35	0.06-0.2	0.10-0.14	6.0-8.9	0.0-0.5	.49	.49			
	16-36	20-30	1.35-1.50	0.2-0.6	0.10-0.14	3.0-5.9	0.0-0.5	.55	.55			
	36-72	10-30	1.50-1.65	0.2-0.6	0.09-0.13	0.0-2.9	0.0-0.5	.55	.55			
141: Calneva-----	0-6	15-20	1.35-1.50	0.2-0.6	0.13-0.15	0.0-2.9	0.0-0.5	.55	.55	2	4L	86
	6-16	35-50	1.25-1.35	0.06-0.2	0.10-0.14	6.0-8.9	0.0-0.5	.49	.49			
	16-36	20-30	1.35-1.50	0.2-0.6	0.10-0.14	3.0-5.9	0.0-0.5	.55	.55			
	36-72	10-30	1.50-1.65	0.2-0.6	0.09-0.13	0.0-2.9	0.0-0.5	.55	.55			
Playas, silty clay--	0-6	35-70	---	0.01-0.06	0.02-0.04	6.0-8.9	0.0-0.1	.37	.37	5	5	56
	6-60	35-70	---	0.01-0.06	0.02-0.04	6.0-8.9	---	.37	.37			
142: Calpine-----	0-20	5-15	1.40-1.50	2-6	0.10-0.12	0.0-2.9	3.0-7.0	.20	.20	5	3	86
	20-35	5-15	1.50-1.65	2-6	0.10-0.13	0.0-2.9	1.0-2.0	.20	.20			
	35-60	5-10	1.50-1.65	2-6	0.06-0.09	0.0-2.9	0.5-1.0	.15	.20			
143: Calpine-----	0-24	5-15	1.40-1.50	2-6	0.11-0.13	0.0-2.9	3.0-7.0	.24	.32	5	3	86
	24-60	5-15	1.50-1.65	2-6	0.10-0.13	0.0-2.9	1.0-2.0	.20	.20			
144: Calpine-----	0-24	5-15	1.40-1.50	2-6	0.11-0.13	0.0-2.9	3.0-7.0	.24	.32	5	3	86
	24-60	5-15	1.50-1.65	2-6	0.10-0.13	0.0-2.9	1.0-2.0	.20	.20			
145: Calpine-----	0-21	5-15	1.40-1.50	2-6	0.11-0.13	0.0-2.9	3.0-7.0	.24	.32	4	3	86
	21-46	5-15	1.50-1.65	2-6	0.10-0.13	0.0-2.9	1.0-2.0	.20	.20			
	46-81	4-10	1.60-1.70	6-20	0.05-0.09	0.0-2.9	0.5-1.0	.10	.20			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
146: Indiano-----	0-7	8-20	1.35-1.55	2-6	0.12-0.16	0.0-2.9	1.0-2.0	.20	.32	2	4	86
	7-27	20-35	1.30-1.50	0.2-0.6	0.16-0.19	3.0-5.9	0.5-1.0	.28	.43			
	27-31	---	---	0.0000-0.01	---	---	---	---	---			
Chalco-----	0-4	10-15	1.35-1.50	2-6	0.11-0.13	0.0-2.9	0.0-2.0	.20	.32	2	5	56
	4-15	40-60	1.25-1.45	0.01-0.06	0.12-0.15	6.0-8.9	0.0-0.5	.28	.37			
	15-19	---	---	0.0029-0.01	---	---	---	---	---			
147: Capona-----	0-11	10-20	1.20-1.30	0.6-2	0.14-0.18	0.0-2.9	1.0-2.0	.24	.28	2	3	86
	11-39	18-27	1.20-1.30	0.6-2	0.13-0.21	0.0-2.9	0.0-0.5	.17	.37			
	39-43	---	---	---	---	---	---	---	---			
Rock outcrop-----	0-60	---	---	---	---	---	---	---	---	-	8	0
148: Cewat-----	0-4	10-20	1.30-1.50	0.6-2	0.08-0.10	0.0-2.9	1.0-2.0	.17	.43	2	6	48
	4-9	15-25	1.35-1.55	0.6-2	0.07-0.11	0.0-2.9	0.0-0.8	.10	.49			
	9-21	15-25	1.35-1.55	0.6-2	0.07-0.11	0.0-2.9	0.0-0.8	.10	.49			
	21-25	---	---	0.0015-0.01	---	---	---	---	---			
149: Cewat-----	0-4	10-20	1.30-1.50	0.6-2	0.08-0.10	0.0-2.9	1.0-2.0	.17	.43	2	6	48
	4-9	15-25	1.35-1.55	0.6-2	0.07-0.11	0.0-2.9	0.0-0.8	.10	.49			
	9-21	15-25	1.35-1.55	0.6-2	0.07-0.11	0.0-2.9	0.0-0.8	.10	.49			
	21-25	---	---	0.0015-0.01	---	---	---	---	---			
McConnel-----	0-3	7-15	1.35-1.50	2-6	0.12-0.15	0.0-2.9	1.0-2.0	.32	.64	5	4	86
	3-60	0-5	1.45-1.60	20-20	0.03-0.05	0.0-2.9	0.0-0.5	.02	.10			
Toulon-----	0-3	10-12	1.45-1.65	2-6	0.06-0.10	0.0-2.9	0.0-0.5	.28	.32	2	5	56
	3-14	12-15	1.40-1.60	2-6	0.06-0.08	0.0-2.9	0.0-0.5	.10	.43			
	14-37	0-3	1.50-1.65	20-20	0.03-0.06	0.0-2.9	0.0-0.5	.05	.15			
	37-60	0-3	1.50-1.65	20-20	0.03-0.06	0.0-2.9	0.0-0.5	.05	.15			
150: Chappuis-----	0-7	10-15	1.50-1.60	2-6	0.10-0.12	0.0-2.9	1.0-2.0	.37	.37	2	3	86
	7-17	40-50	1.30-1.50	0.06-0.2	0.16-0.18	6.0-8.9	0.5-1.0	.32	.32			
	17-60	20-30	1.45-1.55	0.6-2	0.14-0.16	3.0-5.9	0.5-1.0	.37	.37			
151: Chappuis-----	0-10	15-20	1.40-1.50	0.6-2	0.16-0.18	0.0-2.9	1.0-2.0	.49	.49	2	4L	86
	10-19	40-50	1.30-1.50	0.06-0.2	0.16-0.18	6.0-8.9	0.5-1.0	.32	.32			
	19-25	20-30	1.45-1.55	0.6-2	0.14-0.16	3.0-5.9	0.5-1.0	.37	.37			
	25-60	15-20	1.45-1.60	0.6-2	0.07-0.10	0.0-2.9	0.0-0.5	.37	.37			
152: Chimney-----	0-13	2-7	1.50-1.60	6-20	0.05-0.07	0.0-2.9	1.0-2.0	.10	.15	5	3	86
	13-35	2-7	1.50-1.60	6-20	0.03-0.06	0.0-2.9	0.5-1.0	.10	.10			
	35-60	2-7	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.5-1.0	.10	.10			
153: Chimney-----	0-13	2-7	1.50-1.60	6-20	0.05-0.07	0.0-2.9	1.0-2.0	.10	.15	5	3	86
	13-35	2-7	1.50-1.60	6-20	0.03-0.06	0.0-2.9	0.5-1.0	.10	.10			
	35-60	2-7	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.5-1.0	.10	.10			
154: Chimney-----	0-13	2-7	1.50-1.60	6-20	0.05-0.07	0.0-2.9	1.0-2.0	.10	.15	5	3	86
	13-35	2-7	1.50-1.60	6-20	0.03-0.06	0.0-2.9	0.5-1.0	.10	.10			
	35-60	2-7	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.5-1.0	.10	.10			
Janile-----	0-4	0-5	1.50-1.60	6-20	0.04-0.05	0.0-2.9	0.5-1.0	.15	.17	3	8	0
	4-19	0-5	1.50-1.70	6-20	0.03-0.05	0.0-2.9	0.5-1.0	.10	.15			
	19-24	0-5	1.50-1.70	6-20	0.03-0.05	0.0-2.9	0.5-1.0	.10	.15			
	24-34	---	---	0.0000-0.01	---	---	---	---	---			
Waterman-----	0-7	0-10	1.55-1.65	6-20	0.04-0.06	0.0-2.9	0.5-1.0	.15	.15	1	8	0
	7-18	0-10	1.60-1.70	6-20	0.03-0.05	0.0-2.9	0.0-0.5	.10	.15			
	18-22	---	---	0.01-0.02	---	---	---	---	---			
155: Chimney-----	0-13	2-7	1.50-1.60	6-20	0.05-0.07	0.0-2.9	1.0-2.0	.10	.15	5	3	86
	13-35	2-7	1.50-1.60	6-20	0.03-0.06	0.0-2.9	0.5-1.0	.10	.10			
	35-60	2-7	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.5-1.0	.10	.10			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
Janile-----	0-4	0-5	1.50-1.60	6-20	0.04-0.05	0.0-2.9	0.5-1.0	.15	.17	3	8	0
	4-19	0-5	1.50-1.70	6-20	0.03-0.05	0.0-2.9	0.5-1.0	.10	.15			
	19-24	0-5	1.50-1.70	6-20	0.03-0.05	0.0-2.9	0.5-1.0	.10	.15			
	24-34	---	---	0.0000-0.01	---	---	---	---	---			
Waterman-----	0-7	0-10	1.55-1.65	6-20	0.04-0.06	0.0-2.9	0.5-1.0	.15	.15	1	8	0
	7-18	0-10	1.60-1.70	6-20	0.03-0.05	0.0-2.9	0.0-0.5	.10	.15			
	18-22	---	---	0.01-0.02	---	---	---	---	---			
156: Chimney-----	0-13	2-7	1.50-1.60	6-20	0.05-0.07	0.0-2.9	1.0-2.0	.10	.15	5	3	86
	13-35	2-7	1.50-1.60	6-20	0.03-0.06	0.0-2.9	0.5-1.0	.10	.10			
	35-60	2-7	1.55-1.65	6-20	0.03-0.07	0.0-2.9	0.5-1.0	.10	.10			
Waterman-----	0-7	0-10	1.55-1.65	6-20	0.04-0.06	0.0-2.9	0.5-1.0	.15	.15	1	8	0
	7-18	0-10	1.60-1.70	6-20	0.03-0.05	0.0-2.9	0.0-0.5	.10	.15			
	18-22	---	---	0.01-0.02	---	---	---	---	---			
157: Chirpchatter-----	0-11	15-20	1.45-1.55	2-6	0.10-0.13	0.0-2.9	1.0-2.0	.24	.28	5	8	0
	11-52	20-30	1.35-1.50	0.6-2	0.13-0.17	3.0-5.9	1.0-2.0	.24	.37			
	52-65	15-25	1.45-1.55	0.6-2	0.12-0.16	3.0-5.9	0.5-1.0	.32	.32			
158: Cleghorn-----	0-7	10-15	1.50-1.60	2-6	0.10-0.12	0.0-2.9	1.0-2.0	.24	.32	5	3	86
	7-15	20-35	1.40-1.50	0.2-0.6	0.15-0.18	3.0-5.9	0.5-1.0	.32	.32			
	15-19	20-35	1.40-1.50	0.2-0.6	0.15-0.18	3.0-5.9	0.5-1.0	.32	.32			
	19-34	10-15	1.50-1.60	0.06-0.2	0.10-0.15	0.0-2.9	0.0-0.5	.24	.32			
	34-60	10-15	1.45-1.55	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.32	.37			
159: Cleghorn-----	0-7	10-15	1.50-1.60	2-6	0.10-0.12	0.0-2.9	1.0-2.0	.24	.32	5	3	86
	7-15	20-35	1.40-1.50	0.2-0.6	0.15-0.18	3.0-5.9	0.5-1.0	.32	.32			
	15-19	20-35	1.40-1.50	0.2-0.6	0.15-0.18	3.0-5.9	0.5-1.0	.32	.32			
	19-34	10-15	1.50-1.60	0.06-0.2	0.10-0.15	0.0-2.9	0.0-0.5	.24	.32			
	34-60	10-15	1.45-1.55	0.6-2	0.10-0.14	0.0-2.9	0.0-0.5	.32	.37			
160: Cochran-----	0-11	15-20	1.35-1.50	0.6-2	0.11-0.13	0.0-2.9	1.0-2.0	.20	.37	3	6	48
	11-31	35-50	1.25-1.35	0.06-0.2	0.07-0.09	3.0-5.9	0.5-1.0	.10	.37			
	31-60	5-15	1.50-1.70	2-6	0.04-0.06	0.0-2.9	0.5-1.0	.10	.15			
161: Cochran-----	0-11	15-20	1.35-1.50	0.6-2	0.08-0.10	0.0-2.9	1.0-2.0	.10	.37	5	6	0
	11-31	35-50	1.25-1.35	0.06-0.2	0.07-0.09	3.0-5.9	0.5-1.0	.10	.37			
	31-60	5-15	1.50-1.70	2-6	0.04-0.06	0.0-2.9	0.5-1.0	.10	.15			
162: Corral-----	0-6	8-15	1.40-1.55	2-6	0.09-0.12	0.0-2.9	1.0-2.0	.28	.28	2	3	86
	6-19	20-35	1.35-1.50	0.2-0.6	0.13-0.19	3.0-5.9	0.5-1.0	.32	.32			
	19-23	---	---	0.0000-0.01	---	---	---	---	---			
163: Corral-----	0-6	8-15	1.40-1.55	2-6	0.09-0.12	0.0-2.9	1.0-2.0	.28	.28	2	3	86
	6-19	20-35	1.35-1.50	0.2-0.6	0.13-0.19	3.0-5.9	0.5-1.0	.32	.32			
	19-23	---	---	0.0000-0.01	---	---	---	---	---			
164: Corral-----	0-4	8-15	1.40-1.55	2-6	0.09-0.12	0.0-2.9	1.0-2.0	.24	.28	2	3	86
	4-12	20-35	1.35-1.50	0.2-0.6	0.13-0.19	3.0-5.9	0.5-1.0	.32	.37			
	12-16	---	---	0.0000-0.01	---	---	---	---	---			
165: Corral-----	0-4	18-25	1.35-1.50	0.6-2	0.12-0.16	0.0-2.9	1.0-2.0	.32	.37	2	5	56
	4-12	20-35	1.35-1.50	0.2-0.6	0.13-0.19	3.0-5.9	0.5-1.0	.32	.37			
	12-16	---	---	0.0000-0.01	---	---	---	---	---			
166: Corral-----	0-4	15-25	1.35-1.50	0.6-2	0.08-0.11	0.0-2.9	1.0-2.0	.17	.37	2	8	0
	4-12	20-35	1.35-1.50	0.2-0.6	0.06-0.09	3.0-5.9	0.5-1.0	.32	.37			
	12-22	---	---	0.0000-0.01	---	---	---	---	---			
167: Corral-----	0-6	8-15	1.40-1.55	2-6	0.09-0.12	0.0-2.9	1.0-2.0	.28	.28	2	3	86
	6-19	20-35	1.35-1.50	0.2-0.6	0.13-0.19	3.0-5.9	0.5-1.0	.32	.32			
	19-23	---	---	0.0000-0.01	---	---	---	---	---			
Chalco-----	0-4	10-15	1.35-1.50	2-6	0.11-0.13	0.0-2.9	0.0-2.0	.20	.32	2	5	56
	4-15	40-60	1.25-1.45	0.01-0.06	0.12-0.15	6.0-8.9	0.0-0.5	.28	.37			
	15-19	---	---	0.0029-0.01	---	---	---	---	---			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
168: Corral-----	0-4 4-12 12-16	18-25 20-35 ---	1.35-1.50 1.35-1.50 ---	0.6-2 0.2-0.6 0.0000-0.01	0.12-0.16 0.13-0.19 ---	0.0-2.9 3.0-5.9 ---	1.0-2.0 0.5-1.0 ---	.32 .32 ---	.37 .37 ---	2	5	56
Glenbrook-----	0-3 3-12 12-16	0-8 0-8 ---	1.35-1.55 1.40-1.60 ---	6-20 6-20 0.0000-20	0.05-0.07 0.05-0.07 ---	0.0-2.9 0.0-2.9 ---	0.4-0.9 0.0-0.5 ---	.10 .10 ---	.20 .17 ---	2	3	86
169: Devada-----	0-4 4-13 13-17	15-27 40-60 ---	1.10-1.30 1.20-1.40 ---	0.6-2 0.06-0.2 0.0000-0.01	0.07-0.09 0.14-0.16 ---	3.0-5.9 6.0-8.9 ---	1.0-3.0 0.0-2.0 ---	.24 .17 ---	.43 .37 ---	1	8	0
Brubeck-----	0-2 2-32 32-42	40-60 40-60 ---	1.10-1.25 1.15-1.30 ---	0.06-0.2 0.06-0.2 0.01-20	0.07-0.10 0.14-0.16 ---	6.0-8.9 6.0-8.9 ---	1.0-2.0 0.5-1.0 ---	.15 .28 ---	.37 .28 ---	2	8	0
170: Devada-----	0-4 4-13 13-23	15-27 40-60 ---	1.10-1.30 1.20-1.40 ---	0.6-2 0.06-0.2 0.0000-0.01	0.07-0.09 0.14-0.16 ---	3.0-5.9 6.0-8.9 ---	1.0-3.0 0.0-2.0 ---	.24 .17 ---	.43 .37 ---	1	8	0
Bucklake-----	0-8 8-12 12-24 24-34	20-25 27-35 35-50 ---	1.45-1.55 1.40-1.55 1.35-1.50 ---	0.6-2 0.2-0.6 0.06-0.2 ---	0.08-0.10 0.11-0.14 0.10-0.12 ---	3.0-5.9 3.0-5.9 6.0-8.9 ---	1.0-2.0 0.5-1.0 0.5-1.0 ---	.15 .20 .20 ---	.37 .28 .28 ---	2	8	0
171: Devada-----	0-4 4-13 13-23	15-27 40-60 ---	1.10-1.30 1.20-1.40 ---	0.6-2 0.06-0.2 0.0000-0.01	0.07-0.09 0.14-0.16 ---	3.0-5.9 6.0-8.9 ---	1.0-3.0 0.0-2.0 ---	.24 .17 ---	.43 .37 ---	2	5	56
Fivesprings-----	0-3 3-8 8-23 23-33	20-25 30-35 35-50 ---	1.35-1.50 1.35-1.50 1.35-1.50 ---	0.6-2 0.2-0.6 0.06-0.2 ---	0.08-0.12 0.08-0.10 0.06-0.08 ---	0.0-2.9 3.0-5.9 6.0-8.9 ---	1.0-2.0 1.0-2.0 1.0-2.0 ---	.15 .15 .10 ---	.37 .32 .28 ---	2	8	0
Rubble land-----	0-60	0-0	1.70-2.35	20-20	0.00-0.10	0.0-2.9	0.0-0.1	---	---	5	8	0
172: Devada-----	0-7 7-15 15-19	15-27 40-60 ---	1.10-1.30 1.20-1.40 ---	0.6-2 0.06-0.2 0.0000-0.01	0.04-0.07 0.14-0.16 ---	0.0-2.9 6.0-8.9 ---	1.0-3.0 0.0-2.0 ---	.10 .17 ---	.43 .37 ---	1	8	0
Gavel-----	0-4 4-27 27-70	10-20 20-27 ---	1.35-1.50 1.35-1.55 ---	0.6-2 0.6-2 ---	0.10-0.13 0.08-0.10 ---	0.0-2.9 0.0-2.9 ---	1.0-2.0 1.0-2.0 ---	.24 .15 ---	.37 .37 ---	3	8	0
173: Devada-----	0-7 7-15 15-19	15-27 40-60 ---	1.10-1.30 1.20-1.40 ---	0.6-2 0.06-0.2 0.0000-0.01	0.07-0.09 0.14-0.16 ---	3.0-5.9 6.0-8.9 ---	1.0-3.0 0.0-2.0 ---	.24 .17 ---	.43 .37 ---	1	8	0
Gavel-----	0-4 4-27 27-70	10-20 20-27 ---	1.35-1.50 1.35-1.55 ---	0.6-2 0.6-2 ---	0.10-0.13 0.08-0.10 ---	0.0-2.9 0.0-2.9 ---	1.0-2.0 1.0-2.0 ---	.24 .15 ---	.37 .37 ---	3	8	0
Whitinger-----	0-6 6-15 15-26 26-36	20-25 20-28 20-28 ---	1.40-1.50 1.40-1.50 1.40-1.50 ---	0.6-2 0.2-0.6 0.2-0.6 0.0000-0.01	0.07-0.09 0.07-0.10 0.07-0.10 ---	0.0-2.9 0.0-2.9 0.0-2.9 ---	1.0-2.0 0.0-0.5 0.0-0.5 ---	.10 .10 .10 ---	.32 .28 .28 ---	2	8	0
174: Devada-----	0-4 4-13 13-23	15-27 40-60 ---	1.10-1.30 1.20-1.40 ---	0.6-2 0.06-0.2 0.0000-0.01	0.07-0.09 0.14-0.16 ---	3.0-5.9 6.0-8.9 ---	1.0-3.0 0.0-2.0 ---	.24 .17 ---	.43 .37 ---	1	8	0
Glean-----	0-3 3-44 44-48	8-18 8-18 ---	1.20-1.25 1.25-1.35 ---	2-6 2-6 0.0000-0.01	0.06-0.10 0.06-0.10 ---	0.0-2.9 0.0-2.9 ---	1.0-3.0 1.0-3.0 ---	.10 .10 ---	.24 .24 ---	3	8	0
Sumine-----	0-10 10-34 34-38	15-20 25-35 ---	1.20-1.40 1.40-1.60 ---	0.6-2 0.6-2 0.0000-0.01	0.12-0.14 0.10-0.13 ---	0.0-2.9 0.0-2.9 ---	2.0-5.0 0.5-3.0 ---	.28 .15 ---	.32 .55 ---	2	7	38
175: Devada-----	0-4 4-13 13-23	15-27 40-60 ---	1.10-1.30 1.20-1.40 ---	0.6-2 0.06-0.2 0.0000-0.01	0.07-0.09 0.14-0.16 ---	3.0-5.9 6.0-8.9 ---	1.0-3.0 0.0-2.0 ---	.15 .17 ---	.37 .37 ---	1	8	0
Longcreek-----	0-3 3-7 7-18 18-28	20-27 35-40 40-50 ---	1.45-1.55 1.30-1.50 1.25-1.45 ---	0.6-2 0.06-0.2 0.06-0.2 0.0000-0.01	0.07-0.09 0.08-0.10 0.07-0.08 ---	0.0-2.9 0.0-2.9 3.0-5.9 ---	1.0-4.0 1.0-2.0 0.5-1.0 ---	.10 .17 .15 ---	.37 .32 .28 ---	1	8	0

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
176: Devada-----	0-7	15-27	1.10-1.30	0.6-2	0.07-0.09	3.0-5.9	1.0-3.0	.24	.43	1	8	0
	7-15	40-60	1.20-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.0-2.0	.17	.37			
	15-19	---	---	0.0000-0.01	---	---	---	---	---			
Orhood-----	0-4	10-15	1.40-1.50	0.6-2	0.07-0.10	0.0-2.9	1.0-3.0	.10	.28	1	7	38
	4-9	18-27	1.40-1.55	0.6-2	0.07-0.10	0.0-2.9	1.0-2.0	.10	.28			
	9-19	18-32	1.40-1.50	0.2-0.6	0.07-0.11	0.0-2.9	0.5-1.0	.10	.32			
	19-23	---	---	---	---	---	---	---	---			
Hart Camp-----	0-4	10-17	1.30-1.45	0.6-2	0.13-0.15	0.0-2.9	2.0-4.0	.20	.32	2	6	48
	4-16	20-35	1.35-1.50	0.2-0.6	0.17-0.19	3.0-5.9	1.0-2.0	.24	.49			
	16-20	---	---	0.0000-0.02	---	---	---	---	---			
177: Devada-----	0-7	15-27	1.10-1.30	0.6-2	0.07-0.09	3.0-5.9	1.0-3.0	.24	.43	1	8	0
	7-15	40-60	1.20-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.0-2.0	.17	.37			
	15-19	---	---	0.0000-0.01	---	---	---	---	---			
Papeek-----	0-3	27-35	1.30-1.45	0.2-0.6	0.15-0.17	3.0-5.9	0.5-1.0	.20	.43	3	8	0
	3-24	40-50	1.30-1.40	0.06-0.2	0.12-0.16	6.0-8.9	0.5-1.0	.24	.37			
	24-33	25-35	1.35-1.50	0.2-0.6	0.14-0.18	3.0-5.9	0.5-1.0	.28	.32			
	33-43	---	---	---	---	---	---	---	---			
Gavel-----	0-4	10-20	1.35-1.50	0.6-2	0.10-0.13	0.0-2.9	1.0-2.0	.24	.37	3	8	0
	4-27	20-27	1.35-1.55	0.6-2	0.08-0.10	0.0-2.9	1.0-2.0	.15	.37			
	27-70	---	---	---	---	---	---	---	---			
178: Devada-----	0-7	15-27	1.10-1.30	0.6-2	0.07-0.09	3.0-5.9	1.0-3.0	.24	.43	1	8	0
	7-15	40-60	1.20-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.0-2.0	.17	.37			
	15-19	---	---	0.0000-0.01	---	---	---	---	---			
Petescreek-----	0-10	18-25	1.30-1.40	0.6-2	0.10-0.13	0.0-2.9	1.0-3.0	.24	.37	3	8	0
	10-17	20-25	1.30-1.40	0.6-2	0.10-0.12	0.0-2.9	1.0-2.0	.24	.37			
	17-27	20-25	1.30-1.40	0.6-2	0.10-0.12	0.0-2.9	1.0-2.0	.24	.37			
	27-60	---	---	0.0000-0.01	---	---	---	---	---			
Fiddler-----	0-8	18-27	1.35-1.50	0.6-2	0.11-0.14	0.0-2.9	1.0-3.0	.20	.37	2	8	0
	8-14	35-50	1.30-1.50	0.06-0.2	0.07-0.10	3.0-5.9	0.5-1.0	.10	.37			
	14-23	35-50	1.30-1.50	0.06-0.2	0.07-0.10	3.0-5.9	0.5-1.0	.10	.37			
	23-28	---	---	0.0000-0.01	---	---	---	---	---			
179: Devada-----	0-7	15-27	1.10-1.30	0.6-2	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	7-15	40-60	1.20-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	15-19	---	---	0.0000-0.01	---	---	---	---	---			
Rock outcrop-----	0-60	---	---	---	---	---	---	---	---	-	8	0
180: Dotta-----	0-10	10-25	1.35-1.50	0.6-2	0.07-0.12	0.0-2.9	1.0-3.0	.20	.37	5	6	48
	10-56	20-27	1.35-1.50	0.2-0.6	0.08-0.13	3.0-5.9	0.5-1.0	.20	.32			
	56-60	5-15	1.45-1.60	2-6	0.06-0.09	0.0-2.9	0.5-1.0	.17	.20			
181: Dotta-----	0-9	10-25	1.35-1.50	0.6-2	0.07-0.12	0.0-2.9	1.0-3.0	.20	.37	5	8	0
	9-32	20-27	1.35-1.50	0.2-0.6	0.08-0.13	3.0-5.9	1.0-2.0	.20	.37			
	32-60	5-15	1.45-1.60	2-6	0.06-0.09	0.0-2.9	0.5-1.0	.17	.20			
182: Dryvalley-----	0-4	20-25	1.35-1.45	0.6-2	0.16-0.19	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	4-20	40-60	1.25-1.40	0.06-0.2	0.14-0.17	6.0-8.9	1.0-2.0	.32	.32			
	20-42	30-40	1.30-1.45	0.2-0.6	0.16-0.19	3.0-5.9	1.0-2.0	.37	.37			
	42-60	0-5	1.50-1.70	2-6	0.06-0.08	0.0-2.9	1.0-2.0	.20	.20			
183: Dryvalley-----	0-5	30-35	1.30-1.40	0.2-0.6	0.16-0.19	3.0-5.9	1.0-3.0	.37	.37	5	7	38
	5-10	40-60	1.25-1.40	0.06-0.2	0.14-0.17	6.0-8.9	0.5-1.0	.32	.32			
	10-34	40-60	1.25-1.40	0.06-0.2	0.14-0.17	6.0-8.9	0.5-1.0	.32	.32			
	34-60	30-40	1.30-1.45	0.2-0.6	0.16-0.19	3.0-5.9	0.5-1.0	.37	.37			
Playas, silty clay--	0-6	35-70	---	0.01-0.06	0.02-0.04	6.0-8.9	0.0-0.1	.37	.37	5	5	56
	6-60	35-70	---	0.01-0.06	0.02-0.04	6.0-8.9	---	.37	.37			
184: Eaglelake-----	0-8	15-20	1.35-1.45	0.6-2	0.08-0.12	0.0-2.9	2.0-3.0	.28	.37	4	8	0
	8-17	20-25	1.35-1.45	0.6-2	0.12-0.16	0.0-2.9	1.0-3.0	.32	.37			
	17-55	27-35	1.30-1.40	0.2-0.6	0.12-0.15	3.0-5.9	1.0-3.0	.28	.43			
	55-77	---	---	---	---	---	---	---	---			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
185: Eaglelake-----	0-7	15-20	1.35-1.45	0.6-2	0.08-0.12	0.0-2.9	2.0-3.0	.28	.37	4	8	0
	7-16	20-25	1.35-1.45	0.6-2	0.12-0.16	0.0-2.9	1.0-3.0	.32	.37			
	16-54	27-35	1.30-1.40	0.2-0.6	0.12-0.15	3.0-5.9	1.0-3.0	.28	.43			
	54-76	---	---	---	---	---	---	---	---			
Outland-----	0-4	10-18	1.30-1.50	2-6	0.06-0.08	0.0-2.9	1.0-3.0	.10	.24	3	8	0
	4-36	20-27	1.30-1.45	0.6-2	0.06-0.10	0.0-2.9	1.0-2.0	.10	.37			
	36-40	---	---	---	---	---	---	---	---			
Weste-----	0-14	10-15	1.35-1.50	2-6	0.08-0.11	0.0-2.9	2.0-4.0	.10	.24	2	8	0
	14-24	20-25	1.35-1.50	0.6-2	0.06-0.10	0.0-2.9	1.0-2.0	.10	.37			
	24-34	---	---	0.0000-0.01	---	---	---	---	---			
186: Eaglelake-----	0-7	15-20	1.35-1.45	0.6-2	0.08-0.12	0.0-2.9	2.0-3.0	.28	.37	4	8	0
	7-16	20-25	1.35-1.45	0.6-2	0.12-0.16	0.0-2.9	1.0-3.0	.32	.37			
	16-54	27-35	1.30-1.40	0.2-0.6	0.12-0.15	3.0-5.9	1.0-3.0	.28	.43			
	54-76	---	---	---	---	---	---	---	---			
Outland-----	0-4	10-18	1.30-1.50	2-6	0.06-0.08	0.0-2.9	1.0-3.0	.10	.24	3	8	0
	4-36	20-27	1.30-1.45	0.6-2	0.06-0.10	0.0-2.9	1.0-2.0	.10	.37			
	36-40	---	---	---	---	---	---	---	---			
Weste-----	0-14	10-15	1.35-1.50	2-6	0.08-0.11	0.0-2.9	2.0-4.0	.10	.24	2	8	0
	14-24	20-25	1.35-1.50	0.6-2	0.06-0.10	0.0-2.9	1.0-2.0	.10	.37			
	24-34	---	---	0.0000-0.01	---	---	---	---	---			
187: Eaglelake-----	0-12	15-20	1.35-1.45	0.6-2	0.08-0.12	0.0-2.9	2.0-3.0	.28	.37	4	8	0
	12-43	27-35	1.30-1.40	0.2-0.6	0.12-0.15	3.0-5.9	1.0-3.0	.28	.43			
	43-47	---	---	---	---	---	---	---	---			
Outland-----	0-10	10-18	1.30-1.50	0.6-6	0.06-0.10	0.0-2.9	1.0-3.0	.10	.24	3	8	0
	10-24	10-20	1.30-1.50	0.6-6	0.06-0.12	0.0-2.9	1.0-3.0	.10	.24			
	24-28	---	---	---	---	---	---	---	---			
Weste-----	0-10	10-15	1.35-1.50	2-6	0.08-0.11	0.0-2.9	2.0-4.0	.10	.24	2	8	0
	10-24	20-25	1.35-1.50	0.6-2	0.06-0.10	0.0-2.9	1.0-2.0	.10	.37			
	24-28	---	---	0.0000-0.01	---	---	---	---	---			
188: Eaglelake-----	0-12	15-20	1.35-1.45	0.6-2	0.08-0.12	0.0-2.9	2.0-3.0	.28	.37	4	8	0
	12-43	27-35	1.30-1.40	0.2-0.6	0.12-0.15	3.0-5.9	1.0-3.0	.28	.43			
	43-47	---	---	---	---	---	---	---	---			
Outland-----	0-10	10-18	1.30-1.50	0.6-6	0.06-0.10	0.0-2.9	1.0-3.0	.10	.24	3	8	0
	10-24	10-20	1.30-1.50	0.6-6	0.06-0.12	0.0-2.9	1.0-3.0	.10	.24			
	24-28	---	---	---	---	---	---	---	---			
Weste-----	0-10	10-15	1.35-1.50	2-6	0.08-0.11	0.0-2.9	2.0-4.0	.10	.24	2	8	0
	10-24	20-25	1.35-1.50	0.6-2	0.06-0.10	0.0-2.9	1.0-2.0	.10	.37			
	24-28	---	---	0.0000-0.01	---	---	---	---	---			
189: Easte-----	0-13	10-18	1.30-1.40	2-6	0.10-0.13	0.0-2.9	3.0-4.0	.20	.37	3	6	48
	13-58	10-18	1.35-1.45	2-6	0.05-0.07	0.0-2.9	1.0-2.0	.10	.37			
	58-62	---	---	---	---	---	---	---	---			
Fredonyer-----	0-4	15-22	1.35-1.50	0.6-2	0.07-0.09	0.0-2.9	1.0-3.0	.15	.37	2	8	0
	4-12	18-25	1.35-1.50	0.6-2	0.07-0.09	0.0-2.9	1.0-2.0	.15	.37			
	12-28	18-25	1.35-1.50	0.6-2	0.07-0.10	0.0-2.9	1.0-2.0	.15	.37			
	28-38	---	---	---	---	---	---	---	---			
190: Easte-----	0-13	10-18	1.35-1.50	2-6	0.06-0.09	0.0-2.9	3.0-4.0	.10	.24	4	5	56
	13-42	10-18	1.35-1.45	2-6	0.05-0.07	0.0-2.9	1.0-2.0	.10	.37			
	42-62	---	---	---	---	---	---	---	---			
Roop-----	0-5	8-15	1.30-1.40	2-6	0.07-0.09	0.0-2.9	3.0-4.0	.10	.37	2	8	0
	5-13	8-15	1.35-1.50	2-6	0.05-0.07	0.0-2.9	1.0-3.0	.10	.24			
	13-27	8-15	1.35-1.50	2-6	0.05-0.07	0.0-2.9	1.0-2.0	.10	.37			
	27-36	8-15	1.35-1.50	2-6	0.05-0.07	0.0-2.9	1.0-2.0	.10	.37			
	36-46	---	---	0.0000-0.01	---	---	---	---	---			
191: Easte-----	0-13	10-18	1.35-1.50	2-6	0.06-0.09	0.0-2.9	3.0-4.0	.10	.24	4	5	56
	13-42	10-18	1.35-1.45	2-6	0.05-0.07	0.0-2.9	1.0-2.0	.10	.37			
	42-62	---	---	---	---	---	---	---	---			
Roop-----	0-5	8-15	1.30-1.40	2-6	0.07-0.09	0.0-2.9	3.0-4.0	.10	.37	2	8	0
	5-13	8-15	1.35-1.50	2-6	0.05-0.07	0.0-2.9	1.0-3.0	.10	.24			
	13-27	8-15	1.35-1.50	2-6	0.05-0.07	0.0-2.9	1.0-2.0	.10	.37			
	27-36	8-15	1.35-1.50	2-6	0.05-0.07	0.0-2.9	1.0-2.0	.10	.37			
	36-46	---	---	0.0000-0.01	---	---	---	---	---			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
192: Bpot-----	0-6	10-20	1.40-1.50	0.6-2	0.13-0.16	0.0-2.9	0.0-0.5	.55	.55	4	4L	86
	6-13	20-25	1.40-1.50	0.6-2	0.13-0.16	0.0-2.9	0.0-0.5	.55	.55			
	13-21	27-35	1.35-1.50	0.01-0.06	0.09-0.14	3.0-5.9	0.0-0.5	.55	.55			
	21-35	30-35	1.35-1.50	0.01-0.06	0.09-0.14	3.0-5.9	0.0-0.5	.55	.55			
	35-42	20-30	1.35-1.50	0.2-0.6	0.09-0.14	0.0-2.9	0.0-0.5	.55	.55			
	42-48	20-30	1.35-1.50	0.2-0.6	0.09-0.14	0.0-2.9	0.0-0.5	.55	.55			
	48-63	0-10	1.50-1.70	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.20	.20			
Playas, silty clay--	0-6	35-70	---	0.01-0.06	0.02-0.04	6.0-8.9	0.0-0.1	.37	.37	5	5	56
	6-60	35-70	---	0.01-0.06	0.02-0.04	6.0-8.9	---	.37	.37			
193: Bpot-----	0-6	10-20	1.40-1.50	0.6-2	0.13-0.16	0.0-2.9	0.0-0.5	.55	.55	4	4L	86
	6-13	20-25	1.40-1.50	0.6-2	0.13-0.16	0.0-2.9	0.0-0.5	.55	.55			
	13-21	27-35	1.35-1.50	0.01-0.06	0.09-0.14	3.0-5.9	0.0-0.5	.55	.55			
	21-35	30-35	1.35-1.50	0.01-0.06	0.09-0.14	3.0-5.9	0.0-0.5	.55	.55			
	35-42	20-30	1.35-1.50	0.2-0.6	0.09-0.14	0.0-2.9	0.0-0.5	.55	.55			
	42-48	20-30	1.35-1.50	0.2-0.6	0.09-0.14	0.0-2.9	0.0-0.5	.55	.55			
	48-63	0-10	1.50-1.70	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.20	.20			
Ragtown-----	0-4	20-27	1.30-1.45	0.6-2	0.14-0.16	0.0-2.9	0.5-1.0	.37	.37	5	4L	86
	4-60	35-45	1.40-1.60	0.06-0.2	0.16-0.19	6.0-8.9	0.3-0.7	.32	.32			
Playas, silty clay--	0-6	35-70	---	0.01-0.06	0.02-0.04	6.0-8.9	0.0-0.1	.37	.37	5	5	56
	6-60	35-70	---	0.01-0.06	0.02-0.04	6.0-8.9	---	.37	.37			
194: Fiddler-----	0-8	18-27	1.35-1.50	0.6-2	0.11-0.14	0.0-2.9	1.0-3.0	.20	.37	2	8	0
	8-14	35-39	1.30-1.50	0.06-0.2	0.07-0.10	3.0-5.9	0.5-1.0	.10	.37			
	14-23	35-50	1.30-1.50	0.06-0.2	0.07-0.10	3.0-5.9	0.5-1.0	.10	.37			
	23-28	---	---	0.0000-0.01	---	---	---	---	---			
Gavel-----	0-4	10-20	1.35-1.50	0.6-2	0.10-0.13	0.0-2.9	1.0-2.0	.24	.37	3	8	0
	4-27	20-27	1.35-1.55	0.6-2	0.08-0.10	0.0-2.9	1.0-2.0	.15	.37			
	27-70	---	---	---	---	---	---	---	---			
Rubble land-----	0-60	0-0	1.70-2.35	20-20	0.00-0.10	0.0-2.9	0.0-0.1	---	---	5	8	0
195: Fiddler-----	0-8	18-27	1.35-1.50	0.6-2	0.11-0.14	0.0-2.9	1.0-3.0	.20	.37	2	8	0
	8-14	35-39	1.30-1.50	0.06-0.2	0.07-0.10	3.0-5.9	0.5-1.0	.10	.37			
	14-23	35-50	1.30-1.50	0.06-0.2	0.07-0.10	3.0-5.9	0.5-1.0	.10	.37			
	23-28	---	---	0.0000-0.01	---	---	---	---	---			
Gavel-----	0-4	10-20	1.35-1.50	0.6-2	0.10-0.13	0.0-2.9	1.0-2.0	.24	.37	3	8	0
	4-27	20-27	1.35-1.55	0.6-2	0.08-0.10	0.0-2.9	1.0-2.0	.15	.37			
	27-70	---	---	---	---	---	---	---	---			
Rubble land-----	0-60	0-0	1.70-2.35	20-20	0.00-0.10	0.0-2.9	0.0-0.1	---	---	5	8	0
196: Fiddler-----	0-8	18-27	1.35-1.50	0.6-2	0.11-0.14	0.0-2.9	1.0-3.0	.20	.37	2	8	0
	8-14	35-39	1.30-1.50	0.06-0.2	0.07-0.10	3.0-5.9	0.5-1.0	.10	.37			
	14-23	35-50	1.30-1.50	0.06-0.2	0.07-0.10	3.0-5.9	0.5-1.0	.10	.37			
	23-28	---	---	0.0000-0.01	---	---	---	---	---			
Madeline-----	0-5	20-27	1.30-1.40	0.6-2	0.11-0.14	3.0-5.9	1.0-2.0	.20	.37	1	8	0
	5-9	35-60	1.25-1.35	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.0	.15	.37			
	9-16	35-60	1.25-1.35	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.0	.15	.37			
	16-20	---	---	0.0000-0.01	---	---	---	---	---			
197: Fiddler-----	0-8	18-27	1.35-1.50	0.6-2	0.11-0.14	0.0-2.9	1.0-3.0	.20	.37	2	8	0
	8-14	35-39	1.30-1.50	0.06-0.2	0.07-0.10	3.0-5.9	0.5-1.0	.10	.37			
	14-23	35-50	1.30-1.50	0.06-0.2	0.07-0.10	3.0-5.9	0.5-1.0	.10	.37			
	23-28	---	---	0.0000-0.01	---	---	---	---	---			
Orhood-----	0-4	10-15	1.40-1.50	0.6-2	0.07-0.10	0.0-2.9	1.0-3.0	.10	.28	1	7	38
	4-9	18-27	1.40-1.55	0.6-2	0.07-0.10	0.0-2.9	1.0-2.0	.10	.28			
	9-19	18-32	1.40-1.50	0.2-0.6	0.07-0.11	0.0-2.9	0.5-1.0	.10	.32			
	19-23	---	---	---	---	---	---	---	---			
Petescreek-----	0-10	18-25	1.30-1.40	0.6-2	0.09-0.11	0.0-2.9	1.0-3.0	.17	.37	3	8	0
	10-17	20-25	1.30-1.40	0.6-2	0.10-0.12	0.0-2.9	1.0-2.0	.24	.37			
	17-27	20-25	1.30-1.40	0.6-2	0.10-0.12	0.0-2.9	1.0-2.0	.24	.37			
	27-60	---	---	0.0000-0.01	---	---	---	---	---			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
198:												
Fivesprings-----	0-3	20-25	1.35-1.50	0.6-2	0.08-0.12	0.0-2.9	1.0-2.0	.15	.37	2	8	0
	3-8	30-35	1.35-1.50	0.2-0.6	0.08-0.10	3.0-5.9	1.0-2.0	.15	.32			
	8-23	35-50	1.35-1.50	0.06-0.2	0.06-0.08	6.0-8.9	1.0-2.0	.10	.28			
	23-33	---	---	---	---	---	---	---	---			
Longcreek-----	0-3	20-27	1.45-1.55	0.6-2	0.08-0.10	0.0-2.9	1.0-4.0	.15	.37	1	8	0
	3-7	35-40	1.30-1.50	0.06-0.2	0.08-0.10	0.0-2.9	1.0-2.0	.17	.32			
	7-18	40-50	1.25-1.45	0.06-0.2	0.07-0.08	3.0-5.9	0.5-1.0	.15	.28			
	18-28	---	---	0.0000-0.01	---	---	---	---	---			
199:												
Fivesprings-----	0-3	20-25	1.35-1.50	0.6-2	0.08-0.12	0.0-2.9	1.0-2.0	.15	.37	2	8	0
	3-8	30-35	1.35-1.50	0.2-0.6	0.08-0.10	3.0-5.9	1.0-2.0	.15	.32			
	8-23	35-50	1.35-1.50	0.06-0.2	0.06-0.08	6.0-8.9	1.0-2.0	.10	.28			
	23-33	---	---	---	---	---	---	---	---			
Longcreek-----	0-3	20-27	1.45-1.55	0.6-2	0.08-0.10	0.0-2.9	1.0-4.0	.15	.37	1	8	0
	3-7	35-40	1.30-1.50	0.06-0.2	0.08-0.10	0.0-2.9	1.0-2.0	.17	.32			
	7-18	40-50	1.25-1.45	0.06-0.2	0.07-0.08	3.0-5.9	0.5-1.0	.15	.28			
	18-28	---	---	0.0000-0.01	---	---	---	---	---			
200:												
Fivesprings-----	0-3	20-25	1.35-1.50	0.6-2	0.08-0.12	0.0-2.9	1.0-2.0	.15	.37	2	8	0
	3-8	30-35	1.35-1.50	0.2-0.6	0.08-0.10	3.0-5.9	1.0-2.0	.15	.32			
	8-23	35-50	1.35-1.50	0.06-0.2	0.06-0.08	6.0-8.9	1.0-2.0	.10	.28			
	23-33	---	---	---	---	---	---	---	---			
Longcreek-----	0-3	20-27	1.45-1.55	0.6-2	0.08-0.10	0.0-2.9	1.0-4.0	.15	.37	1	8	0
	3-7	35-40	1.30-1.50	0.06-0.2	0.08-0.10	0.0-2.9	1.0-2.0	.17	.32			
	7-18	40-50	1.25-1.45	0.06-0.2	0.07-0.08	3.0-5.9	0.5-1.0	.15	.28			
	18-28	---	---	0.0000-0.01	---	---	---	---	---			
Rubble land-----	0-60	0-0	1.70-2.35	20-20	0.00-0.10	0.0-2.9	0.0-0.1	---	---	5	8	0
201:												
Fivesprings-----	0-3	20-25	1.35-1.50	0.6-2	0.08-0.12	0.0-2.9	1.0-2.0	.15	.37	2	8	0
	3-8	30-35	1.35-1.50	0.2-0.6	0.08-0.10	3.0-5.9	1.0-2.0	.15	.32			
	8-23	35-50	1.35-1.50	0.06-0.2	0.06-0.08	6.0-8.9	1.0-2.0	.10	.28			
	23-33	---	---	---	---	---	---	---	---			
Rubble land-----	0-60	0-0	1.70-2.35	20-20	0.00-0.10	0.0-2.9	0.0-0.1	---	---	5	8	0
Devada-----	0-4	15-27	1.10-1.30	0.6-2	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	4-13	40-60	1.20-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	13-23	---	---	0.0000-0.01	---	---	---	---	---			
202:												
Fivesprings-----	0-3	20-25	1.35-1.50	0.6-2	0.08-0.12	0.0-2.9	1.0-2.0	.15	.37	2	8	0
	3-8	30-35	1.35-1.50	0.2-0.6	0.08-0.10	3.0-5.9	1.0-2.0	.15	.32			
	8-23	35-50	1.35-1.50	0.06-0.2	0.06-0.08	6.0-8.9	1.0-2.0	.10	.28			
	23-33	---	---	---	---	---	---	---	---			
Sumine-----	0-10	15-20	1.20-1.40	0.6-2	0.12-0.14	0.0-2.9	2.0-5.0	.28	.32	2	7	38
	10-34	25-35	1.40-1.60	0.2-0.6	0.10-0.13	0.0-2.9	0.5-3.0	.15	.55			
	34-38	---	---	0.0000-0.01	---	---	---	---	---			
203:												
Fluvents-----	0-4	2-15	1.30-1.40	0.6-2	0.05-0.12	0.0-2.9	0.5-2.0	.43	.43	5	3	86
	4-60	2-15	1.35-1.45	0.6-6	0.05-0.12	0.0-2.9	0.5-3.0	.28	.28			
Riverwash-----	0-6	0-1	---	6-20	0.01-0.02	0.0-2.9	0.0-0.1	---	---	-	8	0
	6-60	0-1	---	6-20	0.02-0.03	0.0-2.9	---	---	---			
204:												
Fordney-----	0-10	5-15	1.30-1.40	2-6	0.09-0.14	0.0-2.9	1.0-3.0	.15	.15	5	2	134
	10-60	5-15	1.30-1.40	6-20	0.09-0.14	0.0-2.9	0.0-2.0	.15	.15			
205:												
Fordney-----	0-10	5-15	1.30-1.40	2-6	0.09-0.14	0.0-2.9	1.0-3.0	.15	.15	5	2	134
	10-62	5-15	1.30-1.40	6-20	0.09-0.14	0.0-2.9	0.0-2.0	.15	.15			
206:												
Fordney-----	0-12	10-15	1.30-1.40	2-6	0.09-0.14	0.0-2.9	2.0-3.0	.15	.15	5	2	134
	12-62	5-15	1.30-1.40	6-20	0.09-0.14	0.0-2.9	0.5-2.0	.15	.15			
207:												
Forgay-----	0-11	2-10	1.50-1.60	2-6	0.02-0.04	0.0-2.9	1.0-2.0	.05	.24	5	8	0
	11-40	2-10	1.50-1.60	2-6	0.02-0.04	0.0-2.9	0.5-1.0	.05	.20			
	40-60	2-5	1.50-1.60	2-6	0.02-0.06	0.0-2.9	0.5-1.0	.05	.20			
208:												
Forgay-----	0-11	2-10	1.50-1.60	2-6	0.02-0.04	0.0-2.9	1.0-2.0	.05	.24	5	8	0
	11-40	2-10	1.50-1.60	2-6	0.02-0.04	0.0-2.9	0.5-1.0	.05	.20			
	40-60	2-5	1.50-1.60	2-6	0.02-0.06	0.0-2.9	0.5-1.0	.05	.20			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
209: Fortsage-----	0-10 10-60	5-15 8-15	1.50-1.65 1.45-1.70	2-6 2-6	0.11-0.14 0.11-0.15	0.0-2.9 0.0-2.9	0.5-1.0 0.5-1.0	.37 .32	.37 .32	5	3	86
210: Fortsage-----	0-2 2-60	10-15 8-15	1.45-1.55 1.45-1.70	2-6 2-6	0.16-0.18 0.11-0.15	0.0-2.9 0.0-2.9	0.5-1.0 0.5-1.0	.49 .32	.49 .32	5	4L	86
211: Fraval-----	0-14 14-34 34-40	12-20 20-30 ---	1.20-1.40 1.25-1.45 ---	0.6-2 0.6-2 0.0000-0.01	0.08-0.10 0.08-0.10 ---	0.0-2.9 3.0-5.9 ---	2.0-4.0 --- ---	.17 .15 ---	.43 .43 ---	3	8	0
Fredonyer-----	0-4 4-12 12-28 28-38	15-22 18-25 18-25 ---	1.35-1.50 1.35-1.50 1.35-1.50 ---	0.6-2 0.6-2 0.6-2 ---	0.07-0.09 0.07-0.09 0.07-0.10 ---	0.0-2.9 0.0-2.9 0.0-2.9 ---	1.0-3.0 1.0-2.0 1.0-2.0 ---	.15 .15 .15 ---	.37 .37 .37 ---	2	8	0
Said-----	0-13 13-26 26-37 37-56 56-66	15-20 20-25 27-35 27-35 ---	0.90-1.05 1.10-1.25 1.20-1.30 1.20-1.30 ---	0.6-2 0.6-2 0.2-0.6 0.2-0.6 ---	0.11-0.14 0.11-0.14 0.08-0.12 0.08-0.12 ---	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9 ---	2.0-5.0 1.0-5.0 1.0-5.0 1.0-5.0 ---	.20 .24 .15 .15 ---	.37 .37 .43 .43 ---	4	3	86
212: Fraval-----	0-14 14-34 34-40	12-20 20-30 ---	1.20-1.40 1.25-1.45 ---	0.6-2 0.6-2 0.0000-0.01	0.08-0.10 0.08-0.10 ---	0.0-2.9 3.0-5.9 ---	2.0-4.0 --- ---	.17 .15 ---	.43 .43 ---	3	8	0
Said-----	0-13 13-27 27-38 38-57 57-67	15-20 20-25 27-35 27-35 ---	0.90-1.05 1.10-1.25 1.20-1.30 1.20-1.30 ---	0.6-2 0.6-2 0.2-0.6 0.2-0.6 ---	0.11-0.14 0.11-0.14 0.08-0.12 0.08-0.12 ---	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9 ---	2.0-5.0 1.0-5.0 1.0-5.0 1.0-5.0 ---	.20 .24 .15 .15 ---	.37 .37 .43 .43 ---	4	3	86
213: Fredonyer-----	0-4 4-12 12-28 28-32	15-22 18-25 18-25 ---	1.35-1.50 1.35-1.50 1.35-1.50 ---	0.6-2 0.6-2 0.6-2 ---	0.07-0.09 0.07-0.09 0.07-0.10 ---	0.0-2.9 0.0-2.9 0.0-2.9 ---	1.0-3.0 1.0-2.0 1.0-2.0 ---	.15 .15 .15 ---	.37 .37 .37 ---	2	8	0
Whitinger-----	0-6 6-15 15-26 26-36	20-25 20-28 20-28 ---	1.40-1.50 1.40-1.50 1.40-1.50 ---	0.6-2 0.2-0.6 0.2-0.6 0.0000-0.01	0.07-0.09 0.07-0.10 0.07-0.10 ---	0.0-2.9 0.0-2.9 0.0-2.9 ---	1.0-2.0 0.0-0.5 0.0-0.5 ---	.10 .10 .10 ---	.32 .28 .28 ---	2	8	0
Orhood-----	0-4 4-9 9-19 19-23	10-15 18-27 18-32 ---	1.40-1.50 1.40-1.55 1.40-1.50 ---	0.6-2 0.6-2 0.2-0.6 ---	0.07-0.10 0.07-0.10 0.07-0.11 ---	0.0-2.9 0.0-2.9 0.0-2.9 ---	1.0-3.0 1.0-2.0 0.5-1.0 ---	.10 .10 .10 ---	.28 .28 .32 ---	1	7	38
214: Fulstone-----	0-2 2-14 14-60	18-25 45-60 ---	1.15-1.35 1.20-1.35 ---	0.6-2 0.06-0.2 0.0000-0.02	0.10-0.12 0.12-0.16 ---	3.0-5.9 6.0-8.9 ---	1.0-2.0 0.5-1.0 ---	.15 .17 ---	.64 .37 ---	1	7	38
Wylo-----	0-7 7-11 11-15 15-19	18-27 35-40 40-50 ---	1.20-1.30 1.10-1.30 1.10-1.30 ---	0.2-0.6 0.06-0.2 0.06-0.2 0.0000-0.01	0.09-0.11 0.13-0.15 0.13-0.15 ---	0.0-2.9 6.0-8.9 6.0-8.9 ---	1.0-2.0 1.0-2.0 1.0-2.0 ---	.15 .15 .15 ---	.37 .32 .32 ---	1	7	38
215: Galeppi-----	0-18 18-36 36-52 52-60	5-15 20-30 5-15 3-8	1.45-1.55 1.40-1.55 1.55-1.65 1.60-1.70	2-6 0.2-0.6 0.6-2 0.6-2	0.10-0.13 0.15-0.17 0.08-0.10 0.06-0.08	0.0-2.9 3.0-5.9 0.0-2.9 0.0-2.9	1.0-3.0 0.5-1.0 0.0-0.5 0.0-0.5	.24 .24 .24 .20	.24 .37 .28 .28	5	3	86
216: Galeppi-----	0-18 18-36 36-52 52-60	5-15 20-30 5-15 3-8	1.45-1.55 1.40-1.55 1.55-1.65 1.60-1.70	2-6 0.2-0.6 0.6-2 0.6-2	0.10-0.13 0.15-0.17 0.08-0.10 0.06-0.08	0.0-2.9 3.0-5.9 0.0-2.9 0.0-2.9	1.0-3.0 0.5-1.0 0.0-0.5 0.0-0.5	.24 .24 .24 .20	.24 .37 .28 .28	5	3	86
217: Galeppi-----	0-18 18-36 36-52 52-60	3-10 20-30 5-15 3-8	1.50-1.60 1.40-1.55 1.55-1.65 1.60-1.70	6-20 0.2-0.6 0.6-2 0.6-2	0.06-0.08 0.15-0.17 0.08-0.10 0.06-0.08	0.0-2.9 3.0-5.9 0.0-2.9 0.0-2.9	1.0-3.0 0.5-1.0 0.0-0.5 0.0-0.5	.15 .24 .24 .20	.20 .37 .28 .28	5	2	134
Glenbrook-----	0-3 3-12 12-16	0-8 0-8 ---	1.35-1.55 1.40-1.60 ---	6-20 6-20 0.0000-20	0.05-0.07 0.05-0.07 ---	0.0-2.9 0.0-2.9 ---	0.4-0.9 0.0-0.5 ---	.10 .10 ---	.10 .17 ---	2	1	220

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
218, Gavel-----	0-4 4-26 26-70	10-20 20-27 ---	1.35-1.50 1.35-1.55 ---	0.6-2 0.6-2 ---	0.10-0.13 0.08-0.10 ---	0.0-2.9 0.0-2.9 ---	1.0-2.0 1.0-2.0 ---	.24 .15 ---	.37 .37 ---	3	8	0
219, Gavel-----	0-12 12-27 27-37	10-20 20-27 ---	1.40-1.55 1.35-1.55 ---	0.6-2 0.6-2 ---	0.05-0.07 0.08-0.10 ---	0.0-2.9 0.0-2.9 ---	1.0-2.0 1.0-2.0 ---	.10 .15 ---	.24 .37 ---	3	8	0
Devada-----	0-7 7-15 15-19	15-27 40-60 ---	1.10-1.30 1.20-1.40 ---	0.6-2 0.06-0.2 0.0000-0.01	0.07-0.09 0.14-0.16 ---	3.0-5.9 6.0-8.9 ---	1.0-3.0 0.8-2.0 ---	.15 .17 ---	.37 .32 ---	1	8	0
220, Gerlach-----	0-3 3-52 52-60	40-60 40-60 35-60	1.10-1.25 1.15-1.30 1.15-1.35	0.06-0.2 0.06-0.2 0.06-0.2	0.13-0.16 0.13-0.16 0.13-0.16	6.0-8.9 6.0-8.9 6.0-8.9	1.0-2.0 0.5-1.0 0.5-1.0	.32 .32 .32	.32 .32 .32	5	4	86
221, Gerlach-----	0-3 3-52 52-60	40-60 40-60 35-60	1.10-1.25 1.15-1.30 1.15-1.35	0.06-0.2 0.06-0.2 0.06-0.2	0.10-0.12 0.13-0.16 0.13-0.16	6.0-8.9 6.0-8.9 6.0-8.9	1.0-2.0 0.5-1.0 0.5-1.0	.20 .32 .32	.37 .32 .32	5	8	0
222, Gerlach-----	0-3 3-52 52-60	40-60 40-60 35-60	1.10-1.25 1.15-1.30 1.15-1.35	0.06-0.2 0.06-0.2 0.06-0.2	0.13-0.16 0.13-0.16 0.13-0.16	6.0-8.9 6.0-8.9 6.0-8.9	1.0-2.0 0.5-1.0 0.5-1.0	.32 .32 .32	.32 .32 .32	5	4	86
Ravendale-----	0-16 16-48 48-60	40-60 40-60 35-60	1.10-1.25 1.10-1.30 1.20-1.30	0.06-0.2 0.06-0.2 0.06-0.2	0.14-0.15 0.14-0.16 0.14-0.16	6.0-8.9 6.0-8.9 6.0-8.9	0.5-1.0 0.0-0.5 0.0-0.5	.24 .28 .24	.24 .28 .24	5	8	0
223, Gerle-----	0-13 13-72	10-18 10-18	1.50-1.60 1.55-1.70	2-6 2-6	0.09-0.13 0.09-0.13	0.0-2.9 0.0-2.9	1.0-3.0 0.5-1.0	.17 .17	.20 .20	5	3	86
224, Gerle-----	0-18 18-46 46-60	10-18 10-18 8-15	1.50-1.60 1.55-1.70 1.55-1.75	2-6 2-6 2-6	0.09-0.13 0.09-0.13 0.07-0.11	0.0-2.9 0.0-2.9 0.0-2.9	1.0-3.0 0.5-1.0 0.5-1.0	.17 .17 .15	.20 .20 .24	5	3	86
225, Gerle-----	0-13 13-46 46-60	8-15 10-18 8-15	1.50-1.60 1.55-1.70 1.55-1.75	2-6 2-6 2-6	0.07-0.10 0.09-0.13 0.07-0.11	0.0-2.9 0.0-2.9 0.0-2.9	1.0-3.0 0.0-0.5 0.0-0.5	.17 .17 .15	.24 .20 .24	5	8	0
Gerle-----	0-13 13-46 46-60	10-18 10-18 8-15	1.50-1.60 1.55-1.70 1.55-1.75	2-6 2-6 2-6	0.09-0.13 0.09-0.13 0.07-0.11	0.0-2.9 0.0-2.9 0.0-2.9	1.0-3.0 0.5-1.0 0.5-1.0	.17 .17 .15	.20 .20 .24	5	3	86
Gerle-----	0-13 13-46 46-60	10-18 10-18 8-15	1.50-1.60 1.55-1.70 1.55-1.75	2-6 2-6 2-6	0.09-0.13 0.09-0.13 0.07-0.11	0.0-2.9 0.0-2.9 0.0-2.9	1.0-3.0 0.5-1.0 0.5-1.0	.17 .17 .15	.20 .20 .24	5	3	86
226, Glean-----	0-14 14-44 44-48	8-18 8-18 ---	1.20-1.25 1.25-1.35 ---	2-6 2-6 0.0000-0.01	0.06-0.10 0.06-0.10 ---	0.0-2.9 0.0-2.9 ---	1.0-3.0 1.0-3.0 ---	.10 .10 ---	.24 .24 ---	3	8	0
227, Glean-----	0-14 14-44 44-48	8-18 8-18 ---	1.20-1.25 1.25-1.35 ---	2-6 2-6 0.0000-0.01	0.06-0.10 0.06-0.10 ---	0.0-2.9 0.0-2.9 ---	1.0-3.0 1.0-3.0 ---	.10 .10 ---	.24 .24 ---	3	8	0
228, Glean-----	0-14 14-44 44-48	8-18 8-18 ---	1.20-1.25 1.25-1.35 ---	2-6 0.2-0.6 ---	0.07-0.11 0.06-0.10 ---	0.0-2.9 						

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
230:												
Graufels-----	0-14	2-8	1.30-1.50	6-20	0.05-0.07	0.0-2.9	1.0-3.0	.10	.15	3	4	86
	14-22	3-10	1.45-1.65	6-20	0.07-0.09	0.0-2.9	0.5-1.0	.10	.17			
	22-26	---	---	0.0000-20	---	---	---	---	---			
Glenbrook-----	0-3	0-8	1.35-1.55	6-20	0.05-0.07	0.0-2.9	0.4-0.9	.10	.10	2	1	220
	3-12	0-8	1.40-1.60	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.10	.17			
	12-16	---	---	0.0000-20	---	---	---	---	---			
231:												
Hagata-----	0-6	12-15	1.35-1.50	0.6-2	0.15-0.17	0.0-2.9	1.0-2.0	.49	.49	3	4	86
	6-22	40-50	1.35-1.45	0.01-0.06	0.14-0.16	6.0-8.9	0.5-1.0	.32	.32			
	22-36	0-0	---	---	0.00-0.00	---	0.5-1.0	---	---			
	36-60	0-5	1.60-1.75	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.15	.15			
Playas-----	0-6	35-70	---	0.01-0.06	0.02-0.04	6.0-8.9	0.0-0.1	.37	.37	5	5	56
	6-60	35-70	---	0.01-0.06	0.02-0.04	6.0-8.9	---	.37	.37			
232:												
Hangtown-----	0-9	8-15	1.20-1.35	2-6	0.05-0.08	0.0-2.9	5.0-10	.10	.24	4	8	0
	9-58	10-15	1.25-1.40	2-6	0.05-0.08	0.0-2.9	0.1-0.5	.15	.24			
	58-62	---	---	0.0000-0.01	---	---	---	---	---			
233:												
Hart Camp-----	0-4	10-17	1.30-1.45	0.6-2	0.13-0.15	0.0-2.9	2.0-4.0	.20	.43	2	8	0
	4-16	20-35	1.35-1.50	0.2-0.6	0.17-0.19	3.0-5.9	1.0-2.0	.24	.49			
	16-20	---	---	0.0000-0.02	---	---	---	---	---			
Devada-----	0-4	15-27	1.10-1.30	0.6-2	0.07-0.09	3.0-5.9	1.0-3.0	.24	.43	1	8	0
	4-13	40-60	1.20-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.0-2.0	.17	.37			
	13-17	---	---	0.0000-0.01	---	---	---	---	---			
Tunnison-----	0-1	55-65	1.10-1.30	0.06-0.2	0.06-0.09	6.0-8.9	0.5-1.0	.10	.37	2	8	0
	1-31	60-70	1.10-1.30	0.06-0.2	0.12-0.15	6.0-8.9	0.5-1.0	.20	.20			
	31-38	---	---	0.0000-0.01	---	---	---	---	---			
	38-48	---	---	0.0000-0.01	---	---	---	---	---			
234:												
Hart Camp-----	0-4	7-15	1.30-1.45	0.6-2	0.13-0.15	0.0-2.9	2.0-4.0	.20	.32	2	6	48
	4-16	20-35	1.35-1.50	0.2-0.6	0.17-0.19	3.0-5.9	1.0-2.0	.24	.49			
	16-20	---	---	0.0000-0.02	---	---	---	---	---			
Madeline-----	0-5	20-27	1.30-1.40	0.6-2	0.11-0.14	3.0-5.9	1.0-2.0	.20	.37	1	8	0
	5-9	35-60	1.25-1.35	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.0	.15	.37			
	9-16	35-60	1.25-1.35	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.0	.15	.37			
	16-20	---	---	0.0000-0.01	---	---	---	---	---			
235:												
Haypress-----	0-16	3-8	1.50-1.60	6-20	0.04-0.07	0.0-2.9	1.0-2.0	.10	.15	4	6	48
	16-42	10-15	1.55-1.65	6-20	0.04-0.07	0.0-2.9	0.5-1.0	.10	.10			
	42-46	---	---	0.0000-20	---	---	---	---	---			
Tanob-----	0-10	5-12	1.40-1.60	6-20	0.05-0.07	0.0-2.9	1.0-3.0	.10	.20	3	3	86
	10-26	8-18	1.50-1.70	0.6-2	0.07-0.09	0.0-2.9	0.5-1.0	.17	.20			
	26-30	---	---	0.0000-20	---	---	---	---	---			
236:												
Herjun-----	0-18	0-5	1.60-1.70	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.20	.20	4	2	134
	18-40	10-15	1.40-1.55	0.6-2	0.07-0.08	0.0-2.9	0.5-1.0	.28	.28			
	40-53	0-5	1.60-1.70	6-20	0.03-0.04	0.0-2.9	0.5-1.0	.20	.20			
	53-60	10-15	1.40-1.55	0.6-2	0.08-0.11	0.0-2.9	0.5-1.0	.55	.55			
237:												
Herjun-----	0-10	10-15	1.35-1.50	0.6-2	0.15-0.18	0.0-2.9	0.5-1.0	.49	.49	5	4L	86
	10-32	10-15	1.40-1.55	0.6-2	0.07-0.08	0.0-2.9	0.5-1.0	.28	.28			
	32-60	10-15	1.40-1.55	0.6-2	0.08-0.11	0.0-2.9	0.5-1.0	.55	.55			
238:												
Highrock, loamy fine sand-----	0-5	8-15	1.55-1.65	2-6	0.08-0.11	0.0-2.9	0.0-0.5	.37	.37	3	3	86
	5-10	27-33	1.40-1.55	0.06-0.2	0.14-0.16	3.0-5.9	0.0-0.5	.37	.37			
	10-14	27-33	1.40-1.55	0.06-0.2	0.14-0.16	3.0-5.9	0.0-0.5	.37	.37			
	14-30	15-25	1.45-1.55	0.6-2	0.09-0.12	0.0-2.9	0.0-0.5	.43	.43			
	30-60	25-35	1.40-1.55	0.2-0.6	0.06-0.08	0.0-2.9	0.0-0.5	.37	.37			
Mazuma-----	0-5	3-8	1.50-1.65	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.37	.43	5	2	134
	5-60	5-15	1.45-1.65	2-6	0.10-0.14	0.0-2.9	0.0-0.5	.24	.55			
Wespac-----	0-3	8-15	1.40-1.55	2-6	0.12-0.14	0.0-2.9	1.0-2.0	.32	.32	3	3	86
	3-45	20-30	1.40-1.55	0.06-0.2	0.14-0.16	3.0-5.9	0.5-1.0	.37	.37			
	45-60	0-5	1.55-1.65	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.20	.20			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
239: Highrock, loamy fine sand-----	0-5	8-15	1.55-1.65	2-6	0.08-0.11	0.0-2.9	0.0-0.5	.37	.37	5	3	86
	5-8	27-35	1.40-1.55	0.06-0.2	0.14-0.16	3.0-5.9	0.0-0.5	.37	.37			
	8-12	27-35	1.40-1.55	0.06-0.2	0.14-0.16	3.0-5.9	0.0-0.5	.37	.37			
	12-27	15-25	1.45-1.55	0.6-2	0.09-0.12	0.0-2.9	0.0-0.5	.43	.43			
	27-60	25-40	1.40-1.55	0.2-0.6	0.06-0.08	0.0-2.9	0.0-0.5	.37	.37			
Wespac, fine sandy loam-----	0-10	8-15	1.40-1.55	2-6	0.12-0.14	0.0-2.9	1.0-2.0	.37	.37	5	3	86
	10-19	27-35	1.40-1.55	0.06-0.2	0.14-0.16	3.0-5.9	0.5-1.0	.37	.37			
	19-60	15-25	1.45-1.55	0.6-2	0.09-0.12	0.0-2.9	0.0-0.5	.49	.49			
Zoravista, loamy sand-----	0-4	0-5	1.45-1.60	20-20	0.06-0.08	0.0-2.9	0.5-1.0	.17	.17	5	2	134
	4-60	0-5	1.50-1.65	20-20	0.05-0.07	0.0-2.9	0.0-0.5	.17	.17			
240: Home Camp-----	0-3	10-20	1.20-1.40	0.6-2	0.14-0.16	0.0-2.9	2.0-4.0	.20	.37	3	7	38
	3-9	10-20	1.20-1.40	0.6-2	0.14-0.16	0.0-2.9	2.0-4.0	.20	.37			
	9-17	25-35	1.30-1.50	0.2-0.6	0.15-0.18	0.0-2.9	1.0-2.0	.10	.37			
	17-28	40-50	1.25-1.40	0.2-0.6	0.12-0.14	3.0-5.9	0.5-1.0	.05	.37			
	28-32	---	---	0.0000-0.01	---	---	---	---	---			
Newlands-----	0-8	10-25	1.30-1.40	0.6-2	0.13-0.15	0.0-2.9	2.0-4.0	.24	.37	3	8	0
	8-43	27-35	1.30-1.40	0.2-0.6	0.15-0.18	3.0-5.9	0.5-1.0	.28	.43			
	43-45	---	---	0.0000-0.01	---	---	---	---	---			
241: Honlak-----	0-4	15-20	1.40-1.55	0.6-2	0.10-0.13	0.0-2.9	0.5-1.0	.37	.37	5	5	56
	4-20	25-30	1.40-1.55	0.06-0.2	0.09-0.14	3.0-5.9	0.5-1.0	.32	.32			
	20-28	20-25	1.50-1.60	0.6-2	0.09-0.13	0.0-2.9	0.0-0.5	.28	.28			
	28-35	15-18	1.50-1.60	0.2-2	0.08-0.13	0.0-2.9	0.0-0.5	.20	.20			
	35-46	17-20	1.50-1.60	0.2-2	0.08-0.13	0.0-2.9	0.0-0.5	.20	.20			
	46-60	5-15	1.55-1.65	2-20	0.04-0.06	0.0-2.9	0.0-0.5	.20	.20			
242: Horsecamp-----	0-2	40-60	1.10-1.25	0.06-0.2	0.08-0.11	6.0-8.9	1.0-2.0	.15	.37	3	8	0
	2-27	40-60	1.15-1.30	0.06-0.2	0.12-0.16	6.0-8.9	0.0-0.5	.28	.28			
	27-46	35-60	1.15-1.30	0.06-0.2	0.12-0.16	6.0-8.9	0.0-0.5	.28	.28			
	46-50	---	---	---	---	---	---	---	---			
243: Horsecamp-----	0-2	40-60	1.10-1.25	0.06-0.2	0.08-0.11	6.0-8.9	1.0-2.0	.15	.37	3	8	0
	2-27	40-60	1.15-1.30	0.06-0.2	0.12-0.16	6.0-8.9	0.0-0.5	.28	.28			
	27-46	35-60	1.15-1.30	0.06-0.2	0.12-0.16	6.0-8.9	0.0-0.5	.28	.28			
	46-50	---	---	---	---	---	---	---	---			
Brubeck-----	0-2	40-60	1.10-1.25	0.06-0.2	0.07-0.10	6.0-8.9	1.0-2.0	.15	.37	2	8	0
	2-32	40-60	1.15-1.30	0.06-0.2	0.14-0.16	6.0-8.9	0.5-1.0	.28	.28			
	32-42	---	---	0.01-20	---	---	---	---	---			
244: Horsecamp-----	0-2	40-60	1.10-1.25	0.06-0.2	0.07-0.08	6.0-8.9	1.0-2.0	.10	.37	3	8	0
	2-46	40-60	1.15-1.30	0.06-0.2	0.12-0.16	6.0-8.9	0.0-0.5	.28	.28			
	46-50	---	---	---	---	---	---	---	---			
Hunton-----	0-5	20-25	1.30-1.45	0.6-2	0.07-0.11	0.0-2.9	1.0-2.0	.24	.64	2	8	0
	5-22	45-55	1.20-1.40	0.06-0.2	0.10-0.16	6.0-8.9	0.2-0.5	.28	.43			
	22-60	---	---	0.0000-0.01	---	---	---	---	---			
245: Horsecamp, cobbly clay-----	0-2	40-60	1.10-1.25	0.06-0.2	0.08-0.11	6.0-8.9	1.0-2.0	.15	.37	3	8	0
	2-27	40-60	1.15-1.30	0.06-0.2	0.12-0.16	6.0-8.9	0.0-0.5	.28	.28			
	27-46	35-60	1.15-1.30	0.06-0.2	0.12-0.16	6.0-8.9	0.0-0.5	.28	.28			
	46-50	---	---	---	---	---	---	---	---			
Mahala-----	0-3	20-25	1.20-1.40	0.6-2	0.09-0.12	0.0-2.9	1.0-2.0	.20	.64	3	8	0
	3-16	45-60	1.20-1.35	0.01-0.06	0.14-0.16	6.0-8.9	0.5-0.8	.20	.37			
	16-36	35-60	1.20-1.40	0.01-0.06	0.14-0.16	6.0-8.9	0.0-0.5	.24	.28			
	36-46	---	---	0.0029-0.01	---	---	---	---	---			
246: Humboldt-----	0-21	40-50	1.00-1.15	0.06-0.2	0.15-0.17	6.0-8.9	3.0-6.0	.28	.28	5	4	86
	21-60	35-45	1.05-1.15	0.2-0.6	0.17-0.19	6.0-8.9	1.0-3.0	.28	.28			
247: Humboldt-----	0-21	40-50	1.00-1.15	0.06-0.2	0.17-0.19	3.0-5.9	2.0-3.0	.28	.28	5	4	86
	21-60	35-45	1.10-1.20	0.2-0.6	0.17-0.19	3.0-5.9	0.5-2.0	.28	.28			
248: Humboldt-----	0-21	40-50	1.00-1.15	0.06-0.2	0.17-0.19	3.0-5.9	2.0-3.0	.28	.28	5	4	86
	21-60	35-45	1.10-1.20	0.2-0.6	0.17-0.19	3.0-5.9	0.5-2.0	.28	.28			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
249, Humboldt-----	0-21	30-40	1.15-1.25	0.2-2	0.19-0.21	3.0-5.9	1.0-3.0	.37	.37	5	4L	86
	21-60	35-45	1.05-1.15	0.2-0.6	0.17-0.19	3.0-5.9	0.0-0.5	.32	.32			
250, Hunton-----	0-2	10-15	1.35-1.55	2-6	0.07-0.09	0.0-2.9	1.0-2.0	.24	.32	2	7	38
	2-5	10-15	1.35-1.55	2-6	0.07-0.09	0.0-2.9	1.0-2.0	.24	.32			
	5-22	45-55	1.20-1.40	0.06-0.2	0.10-0.16	6.0-8.9	0.2-0.5	.28	.43			
	22-60	---	---	0.0000-0.01	---	---	---	---	---			
Shinnpeak-----	0-2	10-15	1.40-1.55	2-6	0.05-0.08	0.0-2.9	1.0-2.0	.10	.24	1	8	0
	2-13	25-35	1.40-1.50	0.2-0.6	0.07-0.09	3.0-5.9	1.0-2.0	.10	.37			
	13-22	---	---	0.01-0.02	---	---	---	---	---			
	22-60	---	---	0.01-0.02	---	---	0.0-0.5	---	---			
251, Incy-----	0-9	0-5	1.50-1.70	20-20	0.05-0.07	0.0-2.9	0.5-1.0	.10	.10	5	1	250
	9-60	0-5	1.50-1.70	20-20	0.05-0.07	0.0-2.9	0.0-0.5	.10	.10			
252, Incy-----	0-9	0-5	1.50-1.70	20-20	0.05-0.07	0.0-2.9	0.5-1.0	.10	.10	5	1	250
	9-60	0-5	1.50-1.70	20-20	0.05-0.07	0.0-2.9	0.0-0.5	.10	.10			
253, Indiano-----	0-8	8-20	1.35-1.55	2-6	0.12-0.16	0.0-2.9	1.0-2.0	.20	.32	2	4	86
	8-38	20-35	1.30-1.50	0.2-0.6	0.16-0.19	3.0-5.9	0.5-1.0	.28	.43			
	38-42	---	---	0.0000-0.01	---	---	---	---	---			
Graufels-----	0-14	3-10	1.30-1.50	6-20	0.07-0.09	0.0-2.9	1.0-3.0	.10	.17	3	3	86
	14-22	3-10	1.45-1.65	6-20	0.07-0.09	0.0-2.9	0.5-1.0	.10	.17			
	22-26	---	---	0.0000-20	---	---	---	---	---			
254, Indiano-----	0-3	15-20	1.35-1.55	0.6-2	0.08-0.11	0.0-2.9	1.0-2.0	.15	.49	2	8	0
	3-7	15-25	1.35-1.55	0.6-2	0.11-0.14	0.0-2.9	1.0-2.0	.24	.43			
	7-11	15-25	1.35-1.55	0.6-2	0.11-0.14	0.0-2.9	1.0-2.0	.24	.43			
	11-18	27-35	1.30-1.50	0.2-0.6	0.14-0.16	3.0-5.9	0.5-1.0	.20	.37			
	18-27	27-35	1.30-1.50	0.2-0.6	0.14-0.16	3.0-5.9	0.5-1.0	.20	.37			
	27-31	---	---	0.0000-0.01	---	---	---	---	---			
Searles-----	0-13	20-27	1.30-1.50	0.6-2	0.10-0.15	0.0-2.9	1.0-2.0	.15	.43	2	8	0
	13-29	25-35	1.35-1.55	0.2-0.6	0.07-0.10	0.0-2.9	0.5-2.0	.10	.37			
	29-33	---	---	---	---	---	---	---	---			
255, Indiano-----	0-3	15-20	1.35-1.55	0.6-2	0.08-0.11	0.0-2.9	1.0-2.0	.15	.49	2	8	0
	3-7	15-25	1.35-1.55	0.6-2	0.11-0.14	0.0-2.9	1.0-2.0	.24	.43			
	7-27	27-35	1.30-1.50	0.2-0.6	0.14-0.16	3.0-5.9	0.5-1.0	.20	.37			
	27-31	---	---	0.0000-0.01	---	---	---	---	---			
Searles-----	0-13	20-27	1.30-1.50	0.6-2	0.10-0.15	0.0-2.9	1.0-2.0	.15	.43	2	8	0
	13-29	25-35	1.35-1.55	0.2-0.6	0.07-0.10	0.0-2.9	0.5-2.0	.10	.37			
	29-33	---	---	---	---	---	---	---	---			
256, Indiano-----	0-7	8-20	1.30-1.50	0.2-0.6	0.12-0.14	3.0-5.9	0.5-1.0	.28	.43	2	4	86
	7-27	20-35	1.30-1.50	0.2-0.6	0.16-0.19	3.0-5.9	0.5-1.0	.28	.43			
	27-31	---	---	0.0000-0.01	---	---	---	---	---			
Zephan-----	0-4	10-15	1.35-1.50	2-6	0.12-0.15	0.0-2.9	0.8-2.0	.15	.32	2	4	86
	4-26	35-45	1.25-1.45	0.06-0.2	0.10-0.13	6.0-8.9	0.0-0.8	.10	.28			
	26-42	---	---	0.0000-20	---	---	---	---	---			
	42-46	---	---	0.0000-0.01	---	---	---	---	---			
Duco, stony loam----	0-10	10-20	1.35-1.50	0.6-2	0.08-0.10	0.0-2.9	1.0-2.0	.28	.37	1	6	48
	10-19	27-35	1.40-1.60	0.2-0.6	0.08-0.10	3.0-5.9	0.5-2.0	.05	.32			
	19-23	---	---	0.0000-0.01	---	---	---	---	---			
257, Inville-----	0-10	10-15	1.35-1.45	0.6-2	0.07-0.11	0.0-2.9	1.0-2.0	.15	.43	5	8	0
	10-21	15-27	1.20-1.30	0.6-2	0.04-0.08	0.0-2.9	0.5-1.0	.05	.32			
	21-30	8-20	1.40-1.50	2-6	0.05-0.08	0.0-2.9	0.0-0.5	.05	.32			
	30-60	8-20	1.40-1.50	2-6	0.05-0.08	0.0-2.9	0.0-0.5	.05	.32			
258, Jauriga-----	0-9	15-20	1.10-1.30	0.6-2	0.11-0.13	0.0-2.9	1.0-3.0	.20	.37	4	8	0
	9-37	20-27	1.10-1.35	0.6-2	0.11-0.14	3.0-5.9	0.8-2.0	.20	.37			
	37-49	27-35	1.10-1.35	0.2-0.6	0.12-0.15	3.0-5.9	0.5-1.0	.20	.43			
	49-59	---	---	0.0000-0.01	---	---	---	---	---			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
259: Jauriga-----	0-9	15-20	1.10-1.30	0.6-2	0.11-0.13	0.0-2.9	1.0-3.0	.20	.37	4	8	0
	9-37	20-27	1.10-1.35	0.6-2	0.11-0.14	3.0-5.9	0.8-2.0	.20	.37			
	37-49	27-35	1.10-1.35	0.2-0.6	0.12-0.15	3.0-5.9	0.5-1.0	.20	.43			
	49-59	---	---	0.0000-0.01	---	---	---	---	---			
Suckbay-----	0-12	15-20	1.40-1.50	0.6-2	0.10-0.13	0.0-2.9	1.0-2.0	.24	.37	3	8	0
	12-22	20-30	1.35-1.45	0.6-2	0.10-0.14	3.0-5.9	1.0-2.0	.24	.37			
	22-29	20-30	1.35-1.45	0.6-2	0.10-0.14	3.0-5.9	1.0-2.0	.24	.37			
	29-39	---	---	---	---	---	---	---	---			
Fredonyer-----	0-4	15-22	1.35-1.50	0.6-2	0.07-0.09	0.0-2.9	1.0-3.0	.15	.37	2	8	0
	4-12	18-25	1.35-1.50	0.6-2	0.07-0.09	0.0-2.9	1.0-2.0	.15	.37			
	12-28	18-25	1.35-1.50	0.6-2	0.07-0.10	0.0-2.9	1.0-2.0	.15	.37			
	28-38	---	---	---	---	---	---	---	---			
260: Keddie-----	0-34	18-27	1.35-1.50	0.6-2	0.15-0.17	0.0-2.9	1.0-3.0	.32	.37	4	5	56
	34-50	18-27	1.35-1.50	0.6-2	0.15-0.17	0.0-2.9	1.0-2.0	.24	.32			
	50-60	10-25	1.50-1.70	2-6	0.04-0.08	0.0-2.9	1.0-2.0	.10	.32			
261: Keddie-----	0-8	27-30	1.30-1.45	0.2-0.6	0.18-0.20	3.0-5.9	1.0-3.0	.28	.28	5	4	86
	8-42	15-20	1.35-1.50	0.6-2	0.15-0.17	0.0-2.9	1.0-2.0	.32	.32			
	42-60	35-50	1.30-1.45	0.06-0.2	0.15-0.17	6.0-8.9	1.0-2.0	.32	.32			
262: Ladd-----	0-8	10-18	1.60-1.70	2-6	0.11-0.13	0.0-2.9	2.0-4.0	.24	.24	5	3	86
	8-39	18-35	1.40-1.60	0.2-0.6	0.14-0.21	3.0-5.9	1.0-2.0	.32	.32			
	39-72	5-10	1.60-1.70	2-6	0.10-0.12	0.0-2.9	0.0-0.5	.24	.28			
263: Ladd-----	0-8	10-18	1.60-1.70	2-6	0.11-0.13	0.0-2.9	2.0-4.0	.24	.24	5	3	86
	8-39	18-35	1.40-1.60	0.2-0.6	0.14-0.21	3.0-5.9	1.0-2.0	.32	.32			
	39-72	5-10	1.60-1.70	2-6	0.10-0.12	0.0-2.9	0.0-0.5	.24	.28			
Bieber-----	0-6	5-18	1.50-1.60	0.6-2	0.12-0.15	0.0-2.9	1.0-2.0	.32	.32	1	3	86
	6-11	35-45	1.35-1.45	0.0029-0.06	0.14-0.16	6.0-8.9	0.0-0.5	.24	.37			
	11-18	35-45	1.35-1.45	0.0029-0.06	0.14-0.16	6.0-8.9	0.0-0.5	.24	.37			
	18-60	0-0	---	---	---	---	---	---	---			
264: Lakeview-----	0-18	20-27	1.20-1.40	0.6-2	0.14-0.17	0.0-2.9	4.0-8.0	.24	.24	5	6	48
	18-60	20-35	1.25-1.45	0.2-0.6	0.15-0.18	3.0-5.9	1.0-3.0	.28	.28			
265: Lakeview-----	0-18	20-27	1.20-1.40	0.6-2	0.14-0.17	0.0-2.9	4.0-8.0	.24	.24	5	6	48
	18-60	20-35	1.25-1.45	0.2-0.6	0.15-0.18	3.0-5.9	1.0-3.0	.28	.28			
266: Lasco-----	0-9	5-12	1.35-1.50	2-6	0.08-0.10	0.0-2.9	1.0-3.0	.20	.24	4	8	0
	9-49	10-18	1.45-1.60	2-6	0.08-0.10	0.0-2.9	0.5-1.0	.20	.24			
	49-59	---	---	---	---	---	---	---	---			
267: Lasco-----	0-9	5-12	1.35-1.50	2-6	0.08-0.10	0.0-2.9	1.0-3.0	.20	.24	4	8	0
	9-49	10-18	1.45-1.60	2-6	0.08-0.10	0.0-2.9	0.5-1.0	.20	.24			
	49-59	---	---	0.0000-0.01	---	---	---	---	---			
268: Lasco-----	0-9	5-12	1.35-1.50	2-6	0.09-0.12	0.0-2.9	1.0-3.0	.20	.37	4	8	0
	9-49	10-18	1.45-1.60	2-6	0.08-0.10	0.0-2.9	0.5-1.0	.20	.24			
	49-59	---	---	0.0000-0.01	---	---	---	---	---			
269: Lasco-----	0-9	5-12	1.35-1.50	2-6	0.09-0.12	0.0-2.9	1.0-3.0	.24	.24	4	3	86
	9-49	10-18	1.40-1.55	2-6	0.09-0.11	0.0-2.9	0.5-1.0	.24	.24			
	49-59	---	---	0.0000-0.01	---	---	---	---	---			
Bonta-----	0-12	5-10	1.50-1.60	2-6	0.08-0.11	0.0-2.9	0.5-1.0	.28	.28	3	3	86
	12-36	12-18	1.50-1.60	2-6	0.09-0.12	0.0-2.9	0.5-1.0	.28	.28			
	36-40	---	---	0.0000-0.01	---	---	---	---	---			
270: Lieberman-----	0-12	5-10	1.45-1.55	2-6	0.12-0.14	0.0-2.9	0.0-0.5	.37	.37	3	3	86
	12-20	20-30	1.40-1.50	0.2-0.6	0.13-0.17	3.0-5.9	0.0-0.5	.37	.37			
	20-60	0-5	1.60-1.70	6-20	0.05-0.08	0.0-2.9	0.0-0.5	.20	.20			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
271: Lieberman-----	0-12	5-10	1.45-1.55	2-6	0.12-0.14	0.0-2.9	0.0-0.5	.37	.37	3	3	86
	12-20	20-30	1.40-1.50	0.2-0.6	0.13-0.17	3.0-5.9	0.0-0.5	.37	.37			
	20-60	0-5	1.60-1.70	6-20	0.05-0.08	0.0-2.9	0.0-0.5	.20	.20			
Herlong-----	0-3	10-18	1.30-1.50	2-6	0.10-0.13	0.0-2.9	0.5-1.0	.32	.32	1	3	86
	3-9	10-18	1.30-1.50	2-6	0.12-0.15	0.0-2.9	0.0-0.5	.37	.37			
	9-12	---	---	0.0000-0.0015	---	---	---	---	---			
	12-68	5-15	1.30-1.50	0.6-2	0.03-0.08	0.0-2.9	0.0-0.5	.17	.17			
	68-72	---	---	0.0000-0.0015	---	---	---	---	---			
272: Lodico-----	0-3	18-25	1.45-1.55	0.6-2	0.08-0.12	0.0-2.9	1.0-3.0	.20	.55	2	8	0
	3-23	40-50	1.15-1.25	0.01-0.06	0.12-0.15	6.0-8.9	0.5-1.0	.28	.28			
	23-33	---	---	0.0000-0.01	0.00-0.00	---	---	---	---			
273: Longcreek-----	0-3	20-27	1.45-1.55	0.6-2	0.07-0.09	0.0-2.9	1.0-4.0	.17	.37	1	8	0
	3-7	35-40	1.30-1.50	0.06-0.2	0.08-0.10	0.0-2.9	1.0-2.0	.17	.32			
	7-18	40-50	1.25-1.45	0.06-0.2	0.07-0.08	3.0-5.9	0.5-1.0	.15	.28			
	18-28	---	---	0.0000-0.01	---	---	---	---	---			
Devada-----	0-4	15-27	1.10-1.30	0.6-2	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	4-13	40-60	1.20-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	13-23	---	---	0.0000-0.01	---	---	---	---	---			
Rubble land-----	0-60	0-0	1.70-2.35	20-20	0.00-0.10	0.0-2.9	0.0-0.1	---	---	5	8	0
274: Longcreek-----	0-3	20-27	1.45-1.55	0.6-2	0.07-0.09	0.0-2.9	1.0-4.0	.17	.37	1	8	0
	3-7	35-40	1.30-1.50	0.06-0.2	0.08-0.10	0.0-2.9	1.0-2.0	.17	.32			
	7-18	40-50	1.25-1.45	0.06-0.2	0.07-0.08	3.0-5.9	0.5-1.0	.15	.28			
	18-28	---	---	0.0000-0.01	---	---	---	---	---			
Devada-----	0-4	15-27	1.10-1.30	0.6-2	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	4-13	40-60	1.20-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	13-23	---	---	0.0000-0.01	---	---	---	---	---			
Rubble land-----	0-60	0-0	1.70-2.35	20-20	0.00-0.10	0.0-2.9	0.0-0.1	---	---	5	8	0
275: Loomis-----	0-2	18-25	1.20-1.35	0.6-2	0.05-0.12	0.0-2.9	1.0-2.0	.10	.43	1	7	38
	2-6	35-40	1.30-1.45	0.2-0.6	0.12-0.18	3.0-5.9	0.5-1.0	.10	.32			
	6-11	40-60	1.15-1.35	0.06-0.2	0.04-0.10	3.0-5.9	0.5-1.0	.05	.37			
	11-15	---	---	0.0000-0.01	---	---	---	---	---			
276: Loomis-----	0-2	18-25	1.20-1.35	0.6-2	0.05-0.12	0.0-2.9	1.0-2.0	.10	.43	1	7	38
	2-6	35-40	1.30-1.45	0.2-0.6	0.12-0.18	3.0-5.9	0.5-1.0	.10	.32			
	6-11	40-60	1.15-1.35	0.06-0.2	0.04-0.10	3.0-5.9	0.5-1.0	.05	.37			
	11-15	---	---	0.0000-0.01	---	---	---	---	---			
Fivesprings-----	0-3	20-25	1.35-1.50	0.6-2	0.08-0.12	0.0-2.9	1.0-2.0	.15	.37	2	8	0
	3-8	30-35	1.35-1.50	0.2-0.6	0.08-0.10	3.0-5.9	1.0-2.0	.15	.32			
	8-23	35-50	1.35-1.50	0.06-0.2	0.06-0.08	6.0-8.9	1.0-2.0	.10	.28			
	23-33	---	---	---	---	---	---	---	---			
277: Loomis-----	0-2	18-25	1.20-1.35	0.6-2	0.05-0.12	0.0-2.9	1.0-2.0	.10	.43	1	7	38
	2-6	35-40	1.30-1.45	0.2-0.6	0.12-0.18	3.0-5.9	0.5-1.0	.10	.32			
	6-11	40-60	1.15-1.35	0.06-0.2	0.04-0.10	3.0-5.9	0.5-1.0	.05	.37			
	11-15	---	---	0.0000-0.01	---	---	---	---	---			
Rubble land-----	0-60	0-0	1.70-2.35	20-20	0.00-0.10	0.0-2.9	0.0-0.1	---	---	5	8	0
278: Madeline-----	0-5	20-27	1.30-1.40	0.6-2	0.11-0.14	3.0-5.9	1.0-2.0	.20	.37	1	8	0
	5-9	35-60	1.25-1.35	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.0	.15	.37			
	9-16	35-60	1.25-1.35	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.0	.15	.37			
	16-20	---	---	0.0000-0.01	---	---	---	---	---			
Glean-----	0-3	8-18	1.20-1.25	2-6	0.07-0.11	0.0-2.9	1.0-3.0	.15	.24	3	8	0
	3-44	8-18	1.25-1.35	2-6	0.06-0.10	0.0-2.9	1.0-3.0	.10	.24			
	44-48	---	---	---	---	---	---	---	---			
Devada-----	0-7	15-27	1.10-1.30	0.6-2	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	7-15	40-60	1.20-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	15-19	---	---	0.0000-0.01	---	---	---	---	---			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
279: Nadeline-----	0-5	20-27	1.30-1.40	0.6-2	0.11-0.14	3.0-5.9	1.0-2.0	.20	.37	1	8	0
	5-9	35-60	1.25-1.35	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.0	.15	.37			
	9-16	35-60	1.25-1.35	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.0	.15	.37			
	16-20	---	---	0.0000-0.01	---	---	---	---	---			
Sumine-----	0-5	10-20	1.20-1.40	0.6-2	0.11-0.13	0.0-2.9	2.0-4.0	.24	.43	2	6	48
	5-11	25-35	1.40-1.60	0.2-0.6	0.10-0.13	0.0-2.9	0.5-3.0	.15	.55			
	11-24	25-35	1.40-1.60	0.6-2	0.10-0.13	0.0-2.9	0.5-3.0	.15	.55			
	24-28	---	---	0.0000-0.01	---	---	---	---	---			
280: Nassack-----	0-33	12-18	1.30-1.40	2-6	0.14-0.16	0.0-2.9	2.0-4.0	.37	.37	5	8	0
	33-60	10-18	1.45-1.60	2-6	0.10-0.13	0.0-2.9	1.0-3.0	.20	.37			
281: Mazuma-----	0-5	3-8	1.50-1.65	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.37	.43	5	2	134
	5-60	5-15	1.45-1.65	2-6	0.10-0.14	0.0-2.9	0.0-0.5	.24	.55			
282: Mazuma-----	0-7	5-15	1.40-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.28	.28	5	3	86
	7-30	5-15	1.40-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.43	.43			
	30-60	5-15	1.45-1.65	2-6	0.06-0.08	0.0-2.9	0.0-0.5	.24	.32			
283: McConnel-----	0-10	7-15	1.35-1.50	2-6	0.12-0.15	0.0-2.9	1.0-2.0	.32	.64	2	4	86
	10-60	0-5	1.45-1.60	20-20	0.03-0.05	0.0-2.9	0.0-0.5	.02	.10			
Mottsville-----	0-17	3-10	1.40-1.60	6-20	0.06-0.08	0.0-2.9	1.0-3.0	.05	.10	5	2	134
	17-60	3-10	1.45-1.65	6-20	0.06-0.08	0.0-2.9	0.0-0.8	.10	.15			
284: McDermott-----	0-13	15-20	1.40-1.50	0.6-2	0.14-0.17	0.0-2.9	0.5-1.0	.43	.43	5	5	56
	13-19	27-35	1.35-1.50	0.2-0.6	0.16-0.19	3.0-5.9	0.5-1.0	.28	.28			
	19-35	27-35	1.35-1.50	0.2-0.6	0.16-0.19	3.0-5.9	0.5-1.0	.28	.28			
	35-50	25-30	1.35-1.50	0.2-0.6	0.15-0.18	3.0-5.9	0.5-1.0	.32	.32			
	50-60	25-30	1.35-1.50	0.2-0.6	0.15-0.18	3.0-5.9	0.5-1.0	.32	.32			
285: Modoc-----	0-16	0-20	1.45-1.55	0.6-2	0.11-0.13	0.0-2.9	1.0-2.0	.24	.32	2	3	86
	16-28	25-35	1.35-1.50	0.2-0.6	0.15-0.19	3.0-5.9	0.0-0.5	.28	.37			
	28-50	---	---	---	---	---	---	---	---			
	50-60	5-10	1.50-1.70	0.6-2	0.08-0.10	0.0-2.9	0.0-0.5	.17	.24			
Truax-----	0-6	10-15	1.40-1.55	2-6	0.09-0.12	0.0-2.9	1.0-3.0	.24	.32	3	3	86
	6-27	20-25	1.40-1.50	0.2-0.6	0.14-0.17	0.0-2.9	1.0-2.0	.28	.32			
	27-41	10-15	1.45-1.55	2-6	0.09-0.12	0.0-2.9	0.5-1.0	.24	.24			
	41-52	---	---	---	---	---	---	---	---			
	52-60	0-10	1.40-1.50	2-6	0.08-0.11	0.0-2.9	0.2-0.5	.20	.20			
286: Mottsville-----	0-17	3-10	1.40-1.60	6-20	0.06-0.08	0.0-2.9	1.0-3.0	.10	.15	5	2	134
	17-60	3-10	1.45-1.65	6-20	0.06-0.08	0.0-2.9	0.0-0.8	.10	.15			
287: Mottsville-----	0-17	3-10	1.40-1.60	6-20	0.06-0.08	0.0-2.9	1.0-3.0	.10	.15	5	2	134
	17-60	3-10	1.45-1.65	6-20	0.06-0.08	0.0-2.9	0.0-0.8	.10	.15			
288: Mottsville-----	0-17	3-10	1.40-1.60	6-20	0.06-0.08	0.0-2.9	1.0-3.0	.05	.10	5	2	134
	17-60	3-10	1.45-1.65	6-20	0.06-0.08	0.0-2.9	0.0-0.8	.10	.15			
289: Mottsville-----	0-17	3-10	1.40-1.60	6-20	0.06-0.08	0.0-2.9	1.0-3.0	.05	.10	5	2	134
	17-60	3-10	1.45-1.65	6-20	0.06-0.08	0.0-2.9	0.0-0.8	.10	.15			
290: Mottsville-----	0-17	3-10	1.40-1.60	6-20	0.06-0.08	0.0-2.9	1.0-3.0	.05	.10	5	2	134
	17-60	3-10	1.45-1.65	6-20	0.06-0.08	0.0-2.9	0.0-0.8	.10	.15			
291: Mottsville-----	0-17	3-10	1.40-1.60	6-20	0.06-0.08	0.0-2.9	1.0-3.0	.05	.10	5	2	134
	17-60	3-10	1.45-1.65	6-20	0.06-0.08	0.0-2.9	0.0-0.8	.10	.15			
292: Mottsville-----	0-17	3-10	1.40-1.60	6-20	0.06-0.08	0.0-2.9	1.0-3.0	.05	.10	5	2	134
	17-60	3-10	1.45-1.65	6-20	0.06-0.08	0.0-2.9	0.0-0.8	.10	.15			
Galeppi-----	0-18	5-15	1.45-1.55	2-6	0.10-0.13	0.0-2.9	1.0-3.0	.24	.24	5	3	86
	18-36	20-30	1.40-1.55	0.2-0.6	0.15-0.17	3.0-5.9	0.5-1.0	.24	.37			
	36-52	5-15	1.55-1.65	0.6-2	0.08-0.10	0.0-2.9	0.0-0.5	.24	.28			
	52-60	3-8	1.60-1.70	0.6-2	0.06-0.08	0.0-2.9	0.0-0.5	.20	.28			

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
293: Mountmed-----	0-6 6-16 16-38 38-47 47-60	0-0 40-50 35-50 35-50 5-30	0.80-1.00 1.30-1.50 1.30-1.50 1.30-1.50 1.50-1.65	6-20 0.06-0.2 0.06-0.2 0.06-0.2 0.6-6	0.26-0.30 0.15-0.17 0.15-0.18 0.15-0.18 0.05-0.08	0.0-2.9 6.0-8.9 6.0-8.9 6.0-8.9 0.0-2.9	80-90 2.0-4.0 1.0-2.0 1.0-2.0 0.5-1.0	.02 .24 .24 .24 .15	.02 .24 .24 .24 .17	4	8	0
294: Mountmed-----	0-6 6-35 35-60	10-20 35-50 15-30	1.10-1.30 1.30-1.50 1.50-1.65	0.6-2 0.06-0.2 0.6-6	0.15-0.17 0.14-0.16 0.05-0.08	0.0-2.9 6.0-8.9 3.0-5.9	8.0-10 2.0-4.0 0.5-1.0	.28 .24 .15	.28 .24 .17	4	5	56
295: Mountmed-----	0-12 12-31 31-60	30-35 35-50 15-30	1.30-1.40 1.30-1.50 1.50-1.65	0.2-0.6 0.06-0.2 0.2-6	0.17-0.21 0.14-0.16 0.05-0.13	3.0-5.9 6.0-8.9 0.0-2.9	2.0-4.0 1.0-2.0 0.5-1.0	.24 .24 .15	.24 .24 .24	4	7	38
296: Newlands-----	0-8 8-43 43-45	10-25 27-35 ---	1.30-1.40 1.30-1.40 ---	0.6-2 0.2-0.6 0.0000-0.01	0.13-0.15 0.15-0.18 ---	0.0-2.9 3.0-5.9 ---	2.0-4.0 0.5-1.0 ---	.24 .28 ---	.37 .43 ---	3	8	0
Hapgood-----	0-4 4-41 41-45	15-25 18-25 ---	1.05-1.20 1.25-1.45 ---	0.6-2 0.6-2 0.0000-0.01	0.08-0.11 0.07-0.10 ---	0.0-2.9 0.0-2.9 ---	2.0-4.0 0.5-2.0 ---	.17 .17 ---	.43 .43 ---	3	6	48
297: Ninemile-----	0-2 2-11 11-18 18-22	15-25 40-60 40-60 ---	1.35-1.50 1.25-1.45 1.25-1.45 ---	0.6-2 0.0000-0.06 0.0000-0.06 0.0000-0.01	0.08-0.11 0.14-0.16 0.14-0.16 ---	0.0-2.9 6.0-8.9 6.0-8.9 ---	2.0-4.0 1.0-3.0 1.0-3.0 ---	.15 .28 .28 ---	.55 .37 .37 ---	1	8	0
Home Camp-----	0-3 3-9 9-17 17-28 28-32	10-20 10-20 25-35 40-50 ---	1.20-1.40 1.20-1.40 1.30-1.50 1.25-1.40 ---	0.6-2 0.6-2 0.2-0.6 0.2-0.6 0.0000-0.01	0.14-0.16 0.14-0.16 0.15-0.18 0.12-0.14 ---	0.0-2.9 0.0-2.9 0.0-2.9 3.0-5.9 ---	2.0-4.0 2.0-4.0 1.0-2.0 0.5-1.0 ---	.20 .20 .10 .05 ---	.37 .37 .37 .37 ---	3	7	38
Newlands-----	0-8 8-43 43-45	10-25 27-35 ---	1.30-1.40 1.30-1.40 ---	0.6-2 0.2-0.6 0.0000-0.01	0.13-0.15 0.15-0.18 ---	0.0-2.9 3.0-5.9 ---	2.0-4.0 0.5-1.0 ---	.24 .28 ---	.37 .43 ---	3	8	0
298: Ninemile-----	0-2 2-11 11-18 18-22	15-25 40-60 40-60 ---	1.35-1.50 1.25-1.45 1.25-1.45 ---	0.6-2 0.0000-0.06 0.0000-0.06 0.0000-0.01	0.08-0.11 0.14-0.16 0.14-0.16 ---	0.0-2.9 6.0-8.9 6.0-8.9 ---	2.0-4.0 1.0-3.0 1.0-3.0 ---	.15 .28 .28 ---	.55 .37 .37 ---	1	8	0
PetesCreek-----	0-10 10-17 17-27 27-60	18-25 20-25 20-25 ---	1.30-1.40 1.30-1.40 1.30-1.40 ---	0.6-2 0.6-2 0.6-2 0.0000-0.01	0.10-0.13 0.10-0.12 0.10-0.12 ---	0.0-2.9 0.0-2.9 0.0-2.9 ---	1.0-3.0 1.0-2.0 1.0-2.0 ---	.24 .24 .24 ---	.37 .37 .37 ---	3	8	0
Fiddler-----	0-8 8-14 14-23 23-28	18-27 35-39 35-50 ---	1.35-1.50 1.30-1.50 1.30-1.50 ---	0.6-2 0.06-0.2 0.06-0.2 0.0000-0.01	0.11-0.14 0.07-0.10 0.07-0.10 ---	0.0-2.9 3.0-5.9 3.0-5.9 ---	1.0-3.0 0.5-1.0 0.5-1.0 ---	.20 .10 .10 ---	.37 .37 .37 ---	2	8	0
299: Ninemile-----	0-2 2-11 11-18 18-22	15-25 40-60 40-60 ---	1.35-1.50 1.25-1.45 1.25-1.45 ---	0.6-2 0.0000-0.06 0.0000-0.06 0.0000-0.01	0.08-0.11 0.14-0.16 0.14-0.16 ---	0.0-2.9 6.0-8.9 6.0-8.9 ---	2.0-4.0 1.0-3.0 1.0-3.0 ---	.05 .28 .28 ---	.49 .37 .37 ---	1	8	0
Weste-----	0-14 14-24 24-34	10-15 20-25 ---	1.35-1.50 1.35-1.50 ---	2-6 0.6-2 0.0000-0.01	0.08-0.11 0.06-0.10 ---	0.0-2.9 0.0-2.9 ---	2.0-4.0 1.0-2.0 ---	.10 .10 ---	.24 .37 ---	2	8	0
30												

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
Madeline-----	0-5	20-27	1.30-1.40	0.6-2	0.11-0.14	3.0-5.9	1.0-2.0	.20	.37	1	8	0
	5-9	35-60	1.25-1.35	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.0	.15	.37			
	9-16	35-60	1.25-1.35	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.0	.15	.37			
	16-20	---	---	0.0000-0.01	---	---	---	---	---			
301, Observation-----	0-3	20-25	1.35-1.50	0.6-2	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37	2	8	0
	3-9	20-25	1.40-1.50	0.6-2	0.12-0.15	3.0-5.9	1.0-2.0	.32	.37			
	9-18	27-35	1.35-1.50	0.2-0.6	0.15-0.18	3.0-5.9	1.0-2.0	.24	.43			
	18-35	35-50	1.35-1.50	0.06-0.2	0.11-0.15	6.0-8.9	0.5-1.0	.15	.37			
	35-45	---	---	---	---	---	---	---	---			
Searles-----	0-13	20-27	1.30-1.50	0.6-2	0.10-0.15	0.0-2.9	1.0-2.0	.15	.43	2	8	0
	13-29	25-35	1.35-1.55	0.2-0.6	0.07-0.10	0.0-2.9	0.5-2.0	.10	.37			
	29-33	---	---	---	---	---	---	---	---			
Madeline-----	0-5	20-27	1.30-1.40	0.6-2	0.11-0.14	3.0-5.9	1.0-2.0	.20	.37	1	8	0
	5-9	35-60	1.25-1.35	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.0	.15	.37			
	9-16	35-60	1.25-1.35	0.06-0.2	0.10-0.13	6.0-8.9	0.5-1.0	.15	.37			
	16-20	---	---	0.0000-0.01	---	---	---	---	---			
302, Orhoad-----	0-4	10-15	1.45-1.55	2-6	0.05-0.08	0.0-2.9	1.0-3.0	.10	.24	1	5	56
	4-9	18-27	1.40-1.55	0.6-2	0.07-0.10	0.0-2.9	1.0-2.0	.10	.28			
	9-19	18-32	1.40-1.50	0.2-0.6	0.07-0.11	0.0-2.9	0.5-1.0	.10	.32			
	19-23	---	---	---	---	---	---	---	---			
303, Orr-----	0-8	12-18	1.35-1.50	0.6-2	0.11-0.13	2.5-4.5	1.0-3.0	.17	.24	5	4	86
	8-21	18-25	1.40-1.60	0.2-0.6	0.15-0.17	3.0-5.9	0.5-2.0	.24	.37			
	21-30	18-25	1.40-1.60	0.2-0.6	0.15-0.17	3.0-5.9	0.5-2.0	.24	.37			
	30-36	18-25	1.40-1.60	0.2-0.6	0.15-0.17	3.0-5.9	0.5-2.0	.24	.37			
	36-60	5-15	1.50-1.60	0.6-2	0.06-0.08	0.0-2.0	0.2-1.0	.15	.17			
304, Outland-----	0-4	10-18	1.30-1.50	0.6-6	0.06-0.10	0.0-2.9	1.0-3.0	.10	.24	3	8	0
	4-18	10-20	1.30-1.50	0.6-6	0.06-0.12	0.0-2.9	1.0-3.0	.10	.24			
	18-36	20-27	1.30-1.45	0.6-2	0.06-0.09	0.0-2.9	1.0-2.0	.10	.37			
	36-46	---	---	---	---	---	---	---	---			
305, Outland-----	0-4	10-18	1.30-1.50	2-6	0.06-0.10	0.0-2.9	1.0-3.0	.20	.24	3	8	0
	4-18	10-20	1.30-1.50	0.6-6	0.06-0.12	0.0-2.9	1.0-3.0	.10	.24			
	18-36	20-27	1.30-1.45	0.6-2	0.06-0.10	0.0-2.9	1.0-2.0	.10	.37			
	36-46	---	---	---	---	---	---	---	---			
Outland-----	0-4	10-18	1.30-1.50	0.6-6	0.06-0.10	0.0-2.9	1.0-3.0	.10	.24	3	8	0
	4-18	10-20	1.30-1.50	0.6-6	0.06-0.12	0.0-2.9	1.0-3.0	.10	.24			
	18-36	20-27	1.30-1.45	0.6-2	0.06-0.09	0.0-2.9	1.0-2.0	.10	.37			
	36-46	---	---	---	---	---	---	---	---			
306, Outland-----	0-4	10-18	1.30-1.50	0.6-6	0.06-0.10	0.0-2.9	1.0-3.0	.10	.24	3	8	0
	4-18	10-20	1.30-1.50	0.6-6	0.06-0.12	0.0-2.9	1.0-3.0	.10	.24			
	18-36	20-27	1.30-1.45	0.6-2	0.06-0.09	0.0-2.9	1.0-2.0	.10	.37			
	36-46	---	---	---	---	---	---	---	---			
Penstock-----	0-12	15-18	1.30-1.50	2-6	0.06-0.08	0.0-2.9	1.0-3.0	.05	.24	5	8	0
	12-63	18-27	1.30-1.50	0.6-2	0.07-0.12	0.0-2.9	1.0-2.0	.10	.37			
	63-73	---	---	0.01-0.02	0.00-0.00	---	---	---	---			
307, Outland-----	0-4	10-18	1.30-1.50	0.6-6	0.06-0.10	0.0-2.9	1.0-3.0	.10	.24	3	8	0
	4-18	10-20	1.30-1.50	0.6-6	0.06-0.12	0.0-2.9	1.0-3.0	.10	.24			
	18-36	20-27	1.30-1.45	0.6-2	0.06-0.09	0.0-2.9	1.0-2.0	.10	.37			
	36-46	---	---	---	---	---	---	---	---			
Penstock-----	0-12	15-18	1.30-1.50	2-6	0.06-0.08	0.0-2.9	1.0-3.0	.05	.24	5	8	0
	12-63	18-27	1.30-1.50	0.6-2	0.07-0.12	0.0-2.9	1.0-2.0	.10	.37			
	63-73	---	---	0.01-0.02	0.00-0.00	---	---	---	---			
308, Papeek-----	0-3	30-35	1.30-1.45	0.2-0.6	0.17-0.19	3.0-5.9	0.5-1.0	.32	.43	3	8	0
	3-24	40-50	1.20-1.40	0.06-0.2	0.12-0.16	6.0-8.9	0.5-1.0	.24	.37			
	24-33	25-35	1.35-1.50	0.2-0.6	0.14-0.18	3.0-5.9	0.5-1.0	.28	.32			
	33-43	---	---	---	---	---	---	---	---			
309, Papeek-----	0-3	30-35	1.30-1.45	0.2-0.6	0.17-0.19	3.0-5.9	0.5-1.0	.32	.43	3	8	0
	3-24	40-50	1.20-1.40	0.06-0.2	0.12-0.16	6.0-8.9	0.5-1.0	.24	.37			
	24-33	25-35	1.35-1.50	0.2-0.6	0.14-0.18	3.0-5.9	0.5-1.0	.28	.32			
	33-43	---	---	---	---	---	---	---	---			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
310: Penstock-----	0-12	15-18	1.30-1.50	2-6	0.06-0.08	0.0-2.9	1.0-3.0	.05	.24	5	8	0
	12-63	18-27	1.30-1.50	0.6-2	0.07-0.12	0.0-2.9	1.0-2.0	.10	.37			
	63-73	---	---	0.01-0.02	0.00-0.00	---	---	---	---			
Deadwood-----	0-9	10-20	1.40-1.50	2-6	0.02-0.05	0.0-2.9	1.0-3.0	.15	.24	1	5	56
	9-16	10-20	1.40-1.50	2-6	0.02-0.05	0.0-2.9	0.5-1.0	.15	.24			
	16-20	---	---	---	---	---	---	---	---			
311: Penstock-----	0-12	15-18	1.30-1.50	2-6	0.06-0.08	0.0-2.9	1.0-3.0	.05	.24	5	8	0
	12-63	18-27	1.30-1.50	0.6-2	0.07-0.12	0.0-2.9	1.0-2.0	.10	.37			
	63-73	---	---	0.01-0.02	0.00-0.00	---	---	---	---			
Deadwood-----	0-9	10-20	1.40-1.50	2-6	0.02-0.05	0.0-2.9	1.0-3.0	.15	.24	1	5	56
	9-16	10-20	1.40-1.50	2-6	0.02-0.05	0.0-2.9	0.5-1.0	.15	.24			
	16-20	---	---	---	---	---	---	---	---			
Rock outcrop-----	0-60	---	---	---	---	---	---	---	---	-	8	0
312: Penstock-----	0-12	15-18	1.30-1.50	0.6-2	0.07-0.12	0.0-2.9	1.0-3.0	.10	.37	5	8	0
	12-63	18-27	1.30-1.50	0.6-2	0.07-0.12	0.0-2.9	1.0-2.0	.05	.37			
	63-73	---	---	0.01-0.02	---	---	---	---	---			
Scaribou, stony loam	0-6	10-15	1.35-1.45	0.6-2	0.06-0.08	0.0-2.9	1.0-3.0	.15	.37	5	8	0
	6-17	15-20	1.35-1.45	0.6-2	0.06-0.08	0.0-2.9	1.0-3.0	.10	.37			
	17-60	25-35	1.35-1.45	0.2-0.6	0.06-0.12	3.0-5.9	1.0-2.0	.10	.43			
313: Penstock-----	0-12	15-18	1.30-1.50	0.6-2	0.07-0.12	0.0-2.9	1.0-3.0	.10	.37	5	8	0
	12-63	18-27	1.30-1.50	0.6-2	0.07-0.12	0.0-2.9	1.0-2.0	.05	.37			
	63-73	---	---	0.01-0.02	---	---	---	---	---			
Scaribou, stony loam	0-6	10-15	1.35-1.45	0.6-2	0.06-0.08	0.0-2.9	1.0-3.0	.15	.37	5	8	0
	6-17	15-20	1.35-1.45	0.6-2	0.06-0.08	0.0-2.9	1.0-3.0	.10	.37			
	17-60	25-35	1.35-1.45	0.2-0.6	0.06-0.12	3.0-5.9	1.0-2.0	.10	.43			
314: Pequop, very cobbly loam-----	0-3	12-20	1.25-1.45	0.6-2	0.08-0.10	0.0-2.9	2.0-5.0	.10	.43	5	8	0
	3-19	20-35	1.25-1.45	0.2-0.6	0.08-0.12	0.0-2.9	1.0-3.0	.10	.37			
	19-36	20-35	1.40-1.60	0.2-0.6	0.08-0.12	0.0-2.9	0.5-1.0	.10	.37			
	36-50	20-35	1.40-1.60	0.2-0.6	0.08-0.12	0.0-2.9	0.5-1.0	.10	.37			
	50-55	---	---	---	---	---	---	---	---			
Observation-----	0-3	20-25	1.35-1.50	0.6-2	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37	2	8	0
	3-9	20-25	1.40-1.50	0.6-2	0.12-0.15	3.0-5.9	1.0-2.0	.32	.37			
	9-18	27-35	1.35-1.50	0.2-0.6	0.15-0.18	3.0-5.9	1.0-2.0	.24	.43			
	18-35	35-50	1.35-1.50	0.06-0.2	0.11-0.15	6.0-8.9	0.5-1.0	.15	.37			
	35-45	---	---	---	---	---	---	---	---			
315: Pequop-----	0-3	12-20	1.25-1.45	0.6-2	0.08-0.10	0.0-2.9	2.0-5.0	.10	.43	5	8	0
	3-19	20-35	1.25-1.45	0.2-0.6	0.08-0.12	0.0-2.9	1.0-3.0	.10	.37			
	19-36	20-35	1.40-1.60	0.2-0.6	0.08-0.12	0.0-2.9	0.5-1.0	.10	.37			
	36-50	20-35	1.40-1.60	0.2-0.6	0.08-0.12	0.0-2.9	0.5-1.0	.10	.37			
	50-55	---	---	---	---	---	---	---	---			
Observation-----	0-3	20-25	1.35-1.50	0.6-2	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37	2	8	0
	3-9	20-25	1.40-1.50	0.6-2	0.12-0.15	3.0-5.9	1.0-2.0	.32	.37			
	9-18	27-35	1.35-1.50	0.2-0.6	0.15-0.18	3.0-5.9	1.0-2.0	.24	.43			
	18-35	35-50	1.35-1.50	0.06-0.2	0.11-0.15	6.0-8.9	0.5-1.0	.15	.37			
	35-45	---	---	---	---	---	---	---	---			
316: Petescreek-----	0-10	18-25	1.30-1.40	0.6-2	0.10-0.13	0.0-2.9	1.0-3.0	.24	.37	3	8	0
	10-17	20-25	1.30-1.40	0.6-2	0.10-0.12	0.0-2.9	1.0-2.0	.24	.37			
	17-27	20-25	1.30-1.40	0.6-2	0.10-0.12	0.0-2.9	1.0-2.0	.24	.37			
	27-60	---	---	0.0000-0.01	---	---	---	---	---			
Bucklake-----	0-8	20-25	1.45-1.55	0.6-2	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37	2	8	0
	8-12	27-35	1.40-1.55	0.2-0.6	0.11-0.14	3.0-5.9	0.5-1.0	.20	.28			
	12-24	35-50	1.35-1.50	0.06-0.2	0.10-0.12	6.0-8.9	0.5-1.0	.20	.28			
	24-34	---	---	---	---	---	---	---	---			
Devada-----	0-7	15-27	1.10-1.30	0.6-2	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	7-15	40-60	1.20-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	15-19	---	---	0.0000-0.01	---	---	---	---	---			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
317: Petescreek-----	0-10	18-25	1.30-1.40	0.6-2	0.09-0.11	0.0-2.9	1.0-3.0	.17	.37	3	8	0
	10-17	20-25	1.30-1.40	0.6-2	0.10-0.12	0.0-2.9	1.0-2.0	.24	.37			
	17-27	20-25	1.30-1.40	0.6-2	0.10-0.12	0.0-2.9	1.0-2.0	.24	.37			
	27-60	---	---	0.0000-0.01	---	---	---	---	---			
Devada-----	0-7	15-27	1.10-1.30	0.6-2	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	7-15	40-60	1.20-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	15-19	---	---	0.0000-0.01	---	---	---	---	---			
Searles-----	0-13	20-27	1.30-1.50	0.6-2	0.10-0.15	0.0-2.9	1.0-2.0	.15	.43	2	8	0
	13-29	25-35	1.35-1.55	0.2-0.6	0.07-0.10	0.0-2.9	0.5-2.0	.10	.37			
	29-33	---	---	---	---	---	---	---	---			
318: Petescreek-----	0-10	18-25	1.30-1.40	0.6-2	0.10-0.13	0.0-2.9	1.0-3.0	.24	.37	3	8	0
	10-17	20-25	1.30-1.40	0.6-2	0.10-0.12	0.0-2.9	1.0-2.0	.24	.37			
	17-27	20-25	1.30-1.40	0.6-2	0.10-0.12	0.0-2.9	1.0-2.0	.24	.37			
	27-60	---	---	0.0000-0.01	---	---	---	---	---			
Devada-----	0-7	15-27	1.10-1.30	0.6-2	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	7-15	40-60	1.20-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	15-19	---	---	0.0000-0.01	---	---	---	---	---			
Searles-----	0-13	20-27	1.30-1.50	0.6-2	0.10-0.15	0.0-2.9	1.0-2.0	.15	.43	2	8	0
	13-29	25-35	1.35-1.55	0.2-0.6	0.07-0.10	0.0-2.9	0.5-2.0	.10	.37			
	29-33	---	---	---	---	---	---	---	---			
319: Petescreek-----	0-10	18-25	1.30-1.40	0.6-2	0.10-0.13	0.0-2.9	1.0-3.0	.24	.37	3	8	0
	10-17	20-25	1.30-1.40	0.6-2	0.10-0.12	0.0-2.9	1.0-2.0	.24	.37			
	17-27	20-25	1.30-1.40	0.6-2	0.10-0.12	0.0-2.9	1.0-2.0	.24	.37			
	27-60	---	---	0.0000-0.01	---	---	---	---	---			
Fredonyer-----	0-4	15-22	1.35-1.50	0.6-2	0.07-0.09	0.0-2.9	1.0-3.0	.15	.37	2	8	0
	4-12	18-25	1.35-1.50	0.6-2	0.07-0.09	0.0-2.9	1.0-2.0	.15	.37			
	12-28	18-25	1.35-1.50	0.6-2	0.07-0.10	0.0-2.9	1.0-2.0	.15	.37			
	28-32	---	---	---	---	---	---	---	---			
320: Petescreek-----	0-10	18-25	1.30-1.40	0.6-2	0.09-0.11	0.0-2.9	1.0-3.0	.17	.37	3	8	0
	10-17	20-25	1.30-1.40	0.6-2	0.10-0.12	0.0-2.9	1.0-2.0	.24	.37			
	17-27	20-25	1.30-1.40	0.6-2	0.10-0.12	0.0-2.9	1.0-2.0	.24	.37			
	27-60	---	---	0.0000-0.01	---	---	---	---	---			
Fredonyer-----	0-4	15-22	1.35-1.50	0.6-2	0.07-0.09	0.0-2.9	1.0-3.0	.15	.37	2	8	0
	4-12	18-25	1.35-1.50	0.6-2	0.07-0.09	0.0-2.9	1.0-2.0	.15	.37			
	12-28	18-										

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
323: Petescreek-----	0-10	18-25	1.30-1.40	0.6-2	0.10-0.13	0.0-2.9	1.0-3.0	.24	.37	3	8	0
	10-17	20-25	1.30-1.40	0.6-2	0.10-0.12	0.0-2.9	1.0-2.0	.24	.37			
	17-27	20-25	1.30-1.40	0.6-2	0.10-0.12	0.0-2.9	1.0-2.0	.24	.37			
	27-60	---	---	0.0000-0.01	---	---	---	---	---			
Searles-----	0-13	20-27	1.30-1.50	0.6-2	0.10-0.15	0.0-2.9	1.0-2.0	.15	.43	2	8	0
	13-29	25-35	1.35-1.55	0.2-0.6	0.07-0.10	0.0-2.9	0.5-2.0	.10	.37			
	29-33	---	---	---	---	---	---	---	---			
Orhood-----	0-4	10-15	1.40-1.50	0.6-2	0.07-0.10	0.0-2.9	1.0-3.0	.10	.28	1	7	38
	4-9	18-27	1.40-1.55	0.6-2	0.07-0.10	0.0-2.9	1.0-2.0	.10	.28			
	9-19	18-32	1.40-1.50	0.2-0.6	0.07-0.11	0.0-2.9	0.5-1.0	.10	.32			
	19-23	---	---	---	---	---	---	---	---			
324: Pit-----	0-24	40-60	1.20-1.30	0.06-0.2	0.14-0.16	6.0-8.9	1.0-4.0	.32	.32	5	7	38
	24-37	35-60	1.20-1.30	0.06-0.2	0.16-0.19	6.0-8.9	0.0-0.5	.37	.37			
	37-60	30-40	1.35-1.45	0.06-0.2	0.16-0.19	3.0-5.9	0.0-0.5	.37	.37			
325: Pits-----	0-60	---	---	---	---	---	---	---	---	-	8	0
Dumps-----	0-60	---	---	---	---	---	---	---	---	-	8	0
326: Playas, silty clay--	0-6	35-70	---	0.01-0.06	0.02-0.04	6.0-8.9	0.0-0.1	.37	.37	5	5	56
	6-60	35-70	---	0.01-0.06	0.02-0.04	6.0-8.9	---	.37	.37			
327: Plinco, gravelly sandy loam-----	0-5	10-15	1.45-1.55	2-6	0.07-0.10	0.0-2.9	2.0-4.0	.20	.24	5	4	86
	5-11	10-15	1.50-1.60	2-6	0.10-0.11	0.0-2.9	1.0-2.0	.17	.24			
	11-47	12-18	1.45-1.60	2-6	0.08-0.14	0.0-2.9	0.5-1.0	.20	.24			
	47-64	12-18	1.45-1.60	2-6	0.08-0.14	0.0-2.9	0.5-1.0	.20	.24			
328: Plinco-----	0-5	10-15	1.40-1.50	2-6	0.15-0.17	0.0-2.9	2.0-4.0	.24	.24	5	4	86
	5-11	10-15	1.50-1.60	2-6	0.10-0.11	0.0-2.9	1.0-2.0	.17	.24			
	11-47	12-18	1.45-1.60	2-6	0.08-0.14	0.0-2.9	0.5-1.0	.20	.24			
	47-64	12-18	1.45-1.60	2-6	0.08-0.14	0.0-2.9	0.5-1.0	.20	.24			
329: Puls-----	0-2	15-25	1.30-1.40	0.6-2	0.05-0.08	0.0-2.9	1.0-2.0	.15	.37	1	8	0
	2-6	27-30	1.30-1.40	0.2-0.6	0.15-0.17	3.0-5.9	1.0-2.0	.24	.43			
	6-15	45-60	1.20-1.25	0.01-0.06	0.13-0.16	6.0-8.9	0.5-1.0	.24	.37			
	15-31	---	---	0.01-0.02	---	---	0.5-1.0	---	---			
	31-35	---	---	0.0015-0.01	---	---	---	---	---			
330: Puls-----	0-2	15-25	1.30-1.40	0.6-2	0.05-0.08	0.0-2.9	1.0-2.0	.15	.37	1	8	0
	2-6	27-30	1.30-1.40	0.2-0.6	0.15-0.17	3.0-5.9	1.0-2.0	.24	.43			
	6-15	45-60	1.20-1.25	0.01-0.06	0.13-0.16	6.0-8.9	0.5-1.0	.24	.37			
	15-31	---	---	0.01-0.02	---	---	0.5-1.0	---	---			
	31-35	---	---	0.0015-0.01	---	---	---	---	---			
Ninekar-----	0-3	20-27	1.40-1.50	0.6-2	0.06-0.10	0.0-2.9	1.0-3.0	.15	.37	2	8	0
	3-6	35-60	1.25-1.35	0.0000-0.06	0.13-0.16	6.0-8.9	0.5-1.0	.37	.37			
	6-21	35-60	1.25-1.35	0.0000-0.06	0.13-0.16	6.0-8.9	0.5-1.0	.37	.37			
	21-28	35-60	1.25-1.35	0.0000-0.06	0.13-0.16	6.0-8.9	0.5-1.0	.37	.37			
	28-38	---	---	0.0000-0.01	---	---	---	---	---			
331: Puls-----	0-2	15-25	1.30-1.40	0.6-2	0.05-0.08	0.0-2.9	1.0-2.0	.15	.37	1	8	0
	2-6	27-30	1.30-1.40	0.2-0.6	0.15-0.17	3.0-5.9	1.0-2.0	.24	.43			
	6-15	45-60	1.20-1.25	0.01-0.06	0.13-0.16	6.0-8.9	0.5-1.0	.24	.37			
	15-31	---	---	0.01-0.02	---	---	0.5-1.0	---	---			
	31-35	---	---	0.0015-0.01	---	---	---	---	---			
Tunnison-----	0-1	55-65	1.10-1.30	0.06-0.2	0.06-0.09	6.0-8.9	0.5-1.0	.10	.37	2	8	0
	1-31	60-70	1.10-1.30	0.06-0.2	0.12-0.15	6.0-8.9	0.5-1.0	.20	.20			
	31-38	---	---	0.0000-0.01	---	---	---	---	---			
	38-48	---	---	0.0000-0.01	---	---	---	---	---			
332: Quartzburg-----	0-7	0-12	1.50-1.65	6-20	0.05-0.07	0.0-2.9	1.0-3.0	.17	.20	3	3	86
	7-26	0-10	1.55-1.70	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.20			
	26-30	---	---	---	---	---	---	---	---			
Scaribou-----	0-12	10-15	1.35-1.50	2-6	0.06-0.09	0.0-2.9	1.0-3.0	.10	.24	5	8	0
	12-40	25-35	1.35-1.50	0.2-0.6	0.06-0.12	3.0-5.9	0.5-1.0	.10	.37			
	40-60	40-50	1.30-1.40	0.06-0.2	0.06-0.11	3.0-5.9	0.5-1.0	.10	.37			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
333: Ravendale-----	0-16	40-60	1.10-1.25	0.06-0.2	0.14-0.16	6.0-8.9	0.5-1.0	.24	.24	5	8	0
	16-48	40-60	1.10-1.30	0.06-0.2	0.14-0.16	6.0-8.9	0.0-0.5	.28	.28			
	48-60	35-60	1.20-1.30	0.06-0.2	0.14-0.16	6.0-8.9	0.0-0.5	.24	.24			
334: Ravendale-----	0-16	40-60	1.10-1.25	0.06-0.2	0.14-0.16	6.0-8.9	0.5-1.0	.24	.24	5	8	0
	16-48	40-60	1.10-1.30	0.06-0.2	0.14-0.16	6.0-8.9	0.0-0.5	.28	.28			
	48-60	35-60	1.20-1.30	0.06-0.2	0.14-0.16	6.0-8.9	0.0-0.5	.24	.24			
335: Ravendale-----	0-16	40-60	1.10-1.25	0.06-0.2	0.14-0.16	6.0-8.9	0.5-1.0	.24	.24	5	7	38
	16-48	40-60	1.10-1.30	0.06-0.2	0.14-0.16	6.0-8.9	0.0-0.5	.28	.28			
	48-60	40-60	1.20-1.30	0.06-0.2	0.14-0.16	6.0-8.9	0.0-0.5	.24	.24			
336: Ravendale-----	0-16	40-60	1.10-1.25	0.06-0.2	0.14-0.16	6.0-8.9	0.5-1.0	.24	.24	5	8	0
	16-48	40-60	1.10-1.30	0.06-0.2	0.14-0.16	6.0-8.9	0.5-1.0	.28	.28			
	48-60	35-60	1.20-1.30	0.06-0.2	0.14-0.16	6.0-8.9	0.5-1.0	.24	.24			
337: Redriver-----	0-5	5-12	0.80-0.95	2-6	0.06-0.09	0.0-2.9	2.0-4.0	.10	.24	2	8	0
	5-17	8-15	0.80-1.00	2-6	0.03-0.08	0.0-2.9	0.5-1.0	.10	.24			
	17-38	8-15	0.80-1.00	2-6	0.03-0.08	0.0-2.9	0.5-1.0	.10	.24			
	38-42	---	---	0.0000-0.01	---	---	---	---	---			
Gerle-----	0-13	10-18	1.50-1.60	2-6	0.09-0.13	0.0-2.9	1.0-3.0	.17	.20	5	3	86
	13-36	10-18	1.55-1.70	2-6	0.09-0.13	0.0-2.9	0.5-1.0	.17	.20			
	36-60	8-15	1.55-1.75	2-6	0.07-0.11	0.0-2.9	0.5-1.0	.15	.24			
338: Redriver-----	0-3	5-12	0.80-0.95	2-6	0.06-0.09	0.0-2.9	2.0-4.0	.10	.24	2	8	0
	3-19	8-15	0.80-1.00	2-6	0.03-0.08	0.0-2.9	0.5-1.0	.10	.24			
	19-36	8-15	0.80-1.00	2-6	0.03-0.08	0.0-2.9	0.5-1.0	.10	.24			
	36-40	---	---	0.0000-0.01	---	---	---	---	---			
Weste-----	0-14	10-15	1.35-1.50	2-6	0.08-0.11	0.0-2.9	2.0-4.0	.10	.24	2	8	0
	14-24	20-25	1.35-1.50	0.6-2	0.06-0.10	0.0-2.9	1.0-2.0	.10	.37			
	24-34	---	---	0.0000-0.01	---	---	---	---	---			
339: Redriver, stony sandy loam-----	0-6	5-12	0.80-0.95	2-6	0.08-0.11	0.0-2.9	2.0-4.0	.10	.24	2	8	0
	6-14	8-15	0.80-1.00	2-6	0.03-0.08	0.0-2.9	0.5-1.0	.10	.24			
	14-28	8-15	0.80-1.00	2-6	0.03-0.08	0.0-2.9	0.5-1.0	.10	.24			
	28-32	---	---	0.0000-0.01	---	---	---	---	---			
Woodwest-----	0-9	7-12	1.35-1.50	2-6	0.06-0.09	0.0-2.9	2.0-4.0	.10	.24	1	8	0
	9-19	7-12	1.35-1.50	2-6	0.03-0.06	0.0-2.9	1.0-2.0	.10	.24			
	19-29	---	---	---	---	---	---	---	---			
Wafle-----	0-13	10-18	1.35-1.50	2-6	0.08-0.12	0.0-2.9	1.0-2.0	.24	.24	4	8	0
	13-24	10-18	1.35-1.50	2-6	0.05-0.08	0.0-2.9	1.0-2.0	.10	.24			
	24-35	20-27	1.40-1.50	0.6-2	0.13-0.15	0.0-2.9	1.0-2.0	.28	.37			
	35-42	20-27	1.40-1.50	0.6-2	0.08-0.11	0.0-2.9	0.5-1.0	.10	.37			
	42-52	20-27	1.40-1.50	0.6-2	0.14-0.16	0.0-2.9	0.5-1.0	.32	.37			
	52-62	---	---	0.01-0.02	---	---	---	---	---			
340: Rices-----	0-16	27-35	1.25-1.40	0.2-0.6	0.17-0.21	3.0-5.9	3.0-4.0	.32	.32	2	4L	86
	16-22	25-35	1.40-1.50	0.2-0.6	0.16-0.19	3.0-5.9	0.5-1.0	.43	.43			
	22-65	20-27	1.30-1.45	0.6-2	0.14-0.16	0.0-2.9	0.5-1.0	.43	.43			
341: Rose Creek-----	0-5	10-15	1.30-1.45	0.6-2	0.16-0.18	0.0-2.9	1.0-2.0	.37	.37	5	5	56
	5-60	10-18	1.50-1.70	2-6	0.13-0.15	0.0-2.9	0.5-2.0	.28	.37			
342: Rose Creek-----	0-25	10-15	---	0.6-2	0.13-0.15	0.0-2.9	1.0-2.0	.37	.37	5	4	86
	25-60	10-18	---	2-6	0.08-0.15	0.0-2.9	---	.32	.37			
343: Rubble land-----	0-60	0-0	1.70-2.35	20-20	0.00-0.10	0.0-2.9	0.0-0.1	---	---	5	8	0
Fiddler-----	0-8	18-27	1.35-1.50	0.6-2	0.11-0.14	0.0-2.9	1.0-3.0	.20	.37	2	8	0
	8-14	35-39	1.30-1.50	0.06-0.2	0.07-0.10	3.0-5.9	0.5-1.0	.10	.37			
	14-23	35-50	1.30-1.50	0.06-0.2	0.07-0.10	3.0-5.9	0.5-1.0	.10	.37			
	23-28	---	---	0.0000-0.01	---	---	---	---	---			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
344: Rubble land-----	0-60	0-0	1.70-2.35	20-20	0.00-0.10	0.0-2.9	0.0-0.1	---	---	5	8	0
Longcreek-----	0-3	20-27	1.45-1.55	0.6-2	0.08-0.10	0.0-2.9	1.0-4.0	.15	.37	1	8	0
	3-7	35-40	1.30-1.50	0.06-0.2	0.08-0.10	0.0-2.9	1.0-2.0	.17	.32			
	7-18	40-50	1.25-1.45	0.06-0.2	0.07-0.08	3.0-5.9	0.5-1.0	.15	.28			
	18-28	---	---	0.0000-0.01	---	---	---	---	---			
Fivesprings-----	0-3	20-25	1.35-1.50	0.6-2	0.08-0.12	0.0-2.9	1.0-2.0	.15	.37	2	8	0
	3-8	30-35	1.35-1.50	0.2-0.6	0.08-0.10	3.0-5.9	1.0-2.0	.15	.32			
	8-23	35-50	1.35-1.50	0.06-0.2	0.06-0.08	6.0-8.9	1.0-2.0	.10	.28			
	23-33	---	---	---	---	---	---	---	---			
345: Rubble land-----	0-60	0-0	1.70-2.35	20-20	0.00-0.10	0.0-2.9	0.0-0.1	---	---	5	8	0
Rock outcrop-----	0-60	---	---	---	---	---	---	---	---	-	8	0
346: Rubble land-----	0-60	0-0	1.70-2.35	20-20	0.00-0.10	0.0-2.9	0.0-0.1	---	---	5	8	0
Weste-----	0-14	10-15	1.35-1.50	2-6	0.08-0.11	0.0-2.9	2.0-4.0	.10	.24	2	8	0
	14-24	20-25	1.35-1.50	0.6-2	0.06-0.10	0.0-2.9	1.0-2.0	.10	.37			
	24-34	---	---	0.0000-0.01	---	---	---	---	---			
347: Saddlerock-----	0-6	0-0	0.80-1.00	6-20	0.26-0.30	0.0-2.9	80-90	.02	.02	5	8	0
	6-12	40-60	1.10-1.25	0.06-0.2	0.15-0.17	6.0-8.9	2.0-3.0	.24	.24			
	12-60	40-60	1.15-1.30	0.06-0.2	0.15-0.18	6.0-8.9	1.0-3.0	.28	.28			
348: Saddlerock-----	0-12	40-60	1.10-1.25	0.06-0.2	0.14-0.16	6.0-8.9	1.0-4.0	.24	.24	5	4	86
	12-52	40-60	1.15-1.30	0.06-0.2	0.14-0.16	6.0-8.9	0.5-2.0	.28	.28			
	52-60	40-60	1.15-1.30	0.06-0.2	0.14-0.16	6.0-8.9	0.5-2.0	.28	.28			
349: Saddlerock-----	0-12	40-60	1.10-1.25	0.06-0.2	0.14-0.16	6.0-8.9	1.0-4.0	.24	.24	5	4	86
	12-52	40-60	1.15-1.30	0.06-0.2	0.14-0.16	6.0-8.9	0.5-2.0	.28	.28			
	52-60	40-60	1.15-1.30	0.06-0.2	0.14-0.16	6.0-8.9	0.5-2.0	.28	.28			
350: Saddlerock-----	0-12	40-60	1.10-1.25	0.06-0.2	0.14-0.16	6.0-8.9	1.0-4.0	.24	.24	5	4	86
	12-52	40-60	1.15-1.30	0.06-0.2	0.14-0.16	6.0-8.9	0.5-2.0	.28	.28			
	52-60	40-60	1.15-1.30	0.06-0.2	0.14-0.16	6.0-8.9	0.5-2.0	.28	.28			
Yobe-----	0-4	15-25	1.30-1.50	0.2-0.6	0.11-0.15	0.0-2.9	1.0-2.0	.49	.49	5	4L	86
	4-60	18-30	1.25-1.45	0.06-0.2	0.11-0.15	3.0-5.9	---	.43	.43			
Termo-----	0-3	50-55	1.00-1.10	0.2-0.6	0.14-0.16	3.0-5.9	1.0-3.0	.37	.37	2	4	86
	3-27	60-65	0.90-1.00	0.01-0.06	0.11-0.13	6.0-8.9	0.5-1.0	.28	.28			
	27-60	55-65	1.00-1.05	0.01-0.06	0.08-0.11	6.0-8.9	0.5-1.0	.28	.28			
351: Said-----	0-13	15-20	0.90-1.05	0.6-2	0.11-0.14	0.0-2.9	2.0-5.0	.20	.37	4	3	86
	13-26	20-25	1.10-1.25	0.6-2	0.11-0.14	0.0-2.9	1.0-5.0	.24	.37			
	26-37	27-35	1.20-1.30	0.2-0.6	0.08-0.12	0.0-2.9	1.0-5.0	.15	.43			
	37-56	27-35	1.20-1.30	0.2-0.6	0.08-0.12	0.0-2.9	1.0-5.0	.15	.43			
	56-66	---	---	---	---	---	---	---	---			
352: Said-----	0-13	15-20	0.90-1.05	0.6-2	0.11-0.14	0.0-2.9	2.0-5.0	.20	.37	4	3	86
	13-26	20-25	1.10-1.25	0.6-2	0.11-0.14	0.0-2.9	1.0-5.0	.24	.37			
	26-56	27-35	1.20-1.30	0.2-0.6	0.08-0.12	0.0-2.9	1.0-5.0	.15	.43			
	56-66	---	---	---	---	---	---	---	---			
Fraval-----	0-14	12-20	1.20-1.40	0.6-2	0.08-0.10	0.0-2.9	2.0-4.0	.20	.43	3	8	0
	14-34	20-30	1.25-1.45	0.6-2	0.08-0.10	3.0-5.9	0.5-1.0	.15	.43			
	34-40	---	---	0.0000-0.01	---	---	---	---	---			
353: Said-----	0-13	15-20	0.90-1.05	0.6-2	0.11-0.14	0.0-2.9	2.0-5.0	.20	.37	4	3	86
	13-26	20-25	1.10-1.25	0.6-2	0.11-0.14	0.0-2.9	1.0-5.0	.24	.37			
	26-56	27-35	1.20-1.30	0.2-0.6	0.08-0.12	0.0-2.9	1.0-5.0	.15	.43			
	56-66	---	---	---	---	---	---	---	---			
Ninemile-----	0-2	15-25	1.35-1.50	0.6-2	0.08-0.11	0.0-2.9	2.0-4.0	.15	.55	1	8	0
	2-11	40-60	1.25-1.45	0.0000-0.06	0.14-0.16	6.0-8.9	1.0-3.0	.28	.37			
	11-18	40-60	1.25-1.45	0.0000-0.06	0.14-0.16	6.0-8.9	1.0-3.0	.28	.37			
	18-22	---	---	0.0000-0.01	---	---	---	---	---			
354: Scaribou-----	0-3	10-15	1.35-1.50	2-6	0.06-0.09	0.0-2.9	1.0-3.0	.10	.24	5	8	0
	3-19	15-20	1.40-1.50	2-6	0.06-0.09	0.0-2.9	0.5-1.0	.10	.24			
	19-33	25-35	1.35-1.50	0.2-0.6	0.06-0.12	3.0-5.9	0.5-1.0	.10	.37			
	33-60	25-35	1.35-1.50	0.2-0.6	0.06-0.12	3.0-5.9	0.5-1.0	.10	.37			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
355: Scaribou-----	0-6	10-15	1.35-1.45	0.6-2	0.02-0.04	0.0-2.9	1.0-3.0	.05	.37	5	8	0
	6-17	15-20	1.35-1.45	0.6-2	0.06-0.08	0.0-2.9	1.0-3.0	.10	.37			
	17-60	25-35	1.35-1.45	0.2-0.6	0.06-0.12	3.0-5.9	1.0-2.0	.10	.43			
	60-70	40-50	1.30-1.40	0.06-0.2	0.06-0.11	3.0-5.9	0.5-1.0	.10	.37			
Penstock-----	0-12	15-18	1.30-1.50	0.6-2	0.06-0.11	0.0-2.9	1.0-3.0	.05	.37	5	8	0
	12-63	18-27	1.30-1.50	0.6-2	0.07-0.12	0.0-2.9	1.0-2.0	.05	.37			
	63-73	---	---	0.01-0.02	---	---	---	---	---			
Rock outcrop-----	0-60	---	---	---	---	---	---	---	---	-	8	0
356: Searles-----	0-13	18-22	1.50-1.60	0.6-2	0.16-0.18	0.0-2.9	2.0-4.0	.28	.32	2	7	38
	13-29	25-30	1.40-1.50	0.2-0.6	0.08-0.11	3.0-5.9	0.0-0.5	.20	.28			
	29-33	---	---	---	---	---	---	---	---			
Devada-----	0-7	15-27	1.10-1.30	0.6-2	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	7-15	40-60	1.20-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	15-19	---	---	0.0000-0.01	---	---	---	---	---			
Fivesprings-----	0-3	20-25	1.35-1.50	0.6-2	0.08-0.12	0.0-2.9	1.0-2.0	.15	.37	2	8	0
	3-8	30-35	1.35-1.50	0.2-0.6	0.08-0.10	3.0-5.9	1.0-2.0	.15	.32			
	8-23	35-50	1.35-1.50	0.06-0.2	0.06-0.08	6.0-8.9	1.0-2.0	.10	.28			
	23-33	---	---	---	---	---	---	---	---			
357: Searles-----	0-13	20-27	1.30-1.50	0.6-2	0.10-0.15	0.0-2.9	1.0-2.0	.15	.43	2	8	0
	13-29	25-35	1.35-1.55	0.2-0.6	0.07-0.10	0.0-2.9	0.5-2.0	.10	.37			
	29-33	---	---	---	---	---	---	---	---			
Devada-----	0-7	15-27	1.10-1.30	0.6-2	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	7-15	40-60	1.20-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	15-19	---	---	0.0000-0.01	---	---	---	---	---			
Rubble land-----	0-60	0-0	1.70-2.35	20-20	0.00-0.10	0.0-2.9	0.0-0.1	---	---	5	8	0
358: Searles-----	0-13	20-27	1.30-1.50	0.6-2	0.10-0.15	0.0-2.9	1.0-2.0	.15	.43	2	8	0
	13-29	25-35	1.35-1.55	0.2-0.6	0.07-0.10	0.0-2.9	0.5-2.0	.10	.37			
	29-33	---	---	---	---	---	---	---	---			
Glean-----	0-14	8-18	1.20-1.25	2-6	0.08-0.12	0.0-2.9	1.0-3.0	.15	.24	3	8	0
	14-44	8-18	1.25-1.35	2-6	0.06-0.10	0.0-2.9	1.0-3.0	.10	.24			
	44-48	---	---	0.0000-0.01	---	---	---	---	---			
359: Searles-----	0-13	20-27	1.30-1.50	0.6-2	0.10-0.15	0.0-2.9	1.0-2.0	.15	.43	2	8	0
	13-29	25-35	1.35-1.55	0.2-0.6	0.07-0.10	0.0-2.9	0.5-2.0	.10	.37			
	29-33	---	---	---	---	---	---	---	---			
Glean-----	0-14	8-18	1.20-1.25	2-6	0.08-0.12	0.0-2.9	1.0-3.0	.15	.24	3	8	0
	14-44	8-18	1.25-1.35	2-6	0.06-0.10	0.0-2.9	1.0-3.0	.10	.24			
	44-48	---	---	0.0000-0.01	---	---	---	---	---			
360: Searles-----	0-13	20-27	1.30-1.50	0.6-2	0.10-0.15	0.0-2.9	1.0-2.0	.15	.43	2	8	0
	13-29	25-35	1.35-1.55	0.2-0.6	0.07-0.10	0.0-2.9	0.5-2.0	.10	.37			
	29-33	---	---	---	---	---	---	---	---			
Orhood-----	0-4	10-15	1.40-1.50	0.6-2	0.07-0.10	0.0-2.9	1.0-3.0	.10	.28	1	7	38
	4-9	18-27	1.40-1.55	0.6-2	0.07-0.10	0.0-2.9	1.0-2.0	.10	.28			
	9-19	18-32	1.40-1.50	0.2-0.6	0.07-0.11	0.0-2.9	0.5-1.0	.10	.32			
	19-23	---	---	---	---	---	---	---	---			
Devada-----	0-7	15-27	1.10-1.30	0.6-2	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	7-15	40-60	1.20-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	15-19	---	---	0.0000-0.01	---	---	---	---	---			
361: Shinnpeak, very cobbly sandy loam--	0-2	10-20	1.20-1.40	0.6-2	0.08-0.10	0.0-2.9	1.0-5.0	.15	.43	1	8	0
	2-13	25-35	1.40-1.50	0.2-0.6	0.07-0.09	3.0-5.9	1.0-2.0	.10	.37			
	13-22	---	---	0.01-0.02	---	---	---	---	---			
	22-60	---	---	0.01-0.02	---	---	0.0-0.5	---	---			
362: Smocreek-----	0-13	18-27	1.35-1.50	0.6-2	0.12-0.14	0.0-2.9	1.0-3.0	.43	.43	5	4L	86
	13-19	18-27	1.35-1.50	0.6-2	0.12-0.14	0.0-2.9	1.0-3.0	.43	.43			
	19-60	25-35	1.35-1.50	0.06-0.2	0.10-0.14	3.0-5.9	1.0-3.0	.43	.43			
363: Smocreek, silt loam--	0-13	25-35	1.35-1.50	0.06-0.2	0.12-0.14	3.0-5.9	1.0-3.0	.43	.43	5	4L	86
	13-19	18-27	1.35-1.50	0.6-2	0.12-0.14	0.0-2.9	1.0-3.0	.43	.43			
	19-60	25-35	1.35-1.50	0.06-0.2	0.10-0.14	3.0-5.9	1.0-3.0	.43	.43			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
364: Southpac-----	0-7	10-18	1.35-1.50	0.6-2	0.06-0.12	0.0-2.9	1.0-3.0	.10	.37	5	8	0
	7-35	15-27	1.35-1.50	0.6-2	0.06-0.12	0.0-2.9	1.0-3.0	.10	.37			
	35-61	27-30	1.30-1.45	0.2-0.6	0.10-0.14	3.0-5.9	1.0-2.0	.20	.43			
365: Springmeyer-----	0-11	5-15	1.30-1.50	2-6	0.11-0.13	0.0-2.9	1.0-3.0	.24	.24	4	3	86
	11-25	25-35	1.30-1.50	0.2-0.6	0.14-0.16	3.0-5.9	0.5-2.0	.20	.28			
	25-60	18-25	1.30-1.50	0.2-0.6	0.11-0.13	3.0-5.9	0.0-0.5	.20	.37			
366: Springmeyer-----	0-15	20-27	1.25-1.45	0.2-0.6	0.14-0.16	3.0-5.9	1.0-3.0	.20	.24	4	5	56
	15-46	25-35	1.30-1.50	0.2-0.6	0.14-0.16	3.0-5.9	0.5-2.0	.20	.28			
	46-60	18-25	1.30-1.50	0.2-0.6	0.11-0.13	3.0-5.9	0.0-0.5	.20	.37			
367: Stacy-----	0-17	8-10	1.40-1.50	0.6-2	0.13-0.15	0.0-2.9	1.0-2.0	.28	.28	4	3	86
	17-50	8-15	1.45-1.60	2-6	0.13-0.15	0.0-2.9	1.0-2.0	.32	.32			
	50-62	0-5	1.60-1.70	6-20	0.05-0.08	0.0-2.9	0.5-1.0	.17	.17			
368: Standish-----	0-4	10-15	1.45-1.55	2-6	0.10-0.12	0.0-2.9	1.0-2.0	.37	.37	2	3	86
	4-7	10-15	1.50-1.60	2-6	0.08-0.10	0.0-2.9	0.0-0.5	.32	.32			
	7-16	40-50	1.35-1.45	0.01-0.06	0.13-0.16	5.0-8.9	0.5-1.0	.28	.28			
	16-27	30-40	1.40-1.55	0.2-0.6	0.13-0.16	3.0-5.9	0.5-1.0	.32	.32			
	27-53	10-15	1.50-1.60	2-6	0.08-0.10	0.0-2.9	0.0-0.5	.32	.32			
	53-65	0-5	1.60-1.70	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.15	.15			
369: Stiles-----	0-5	27-35	1.35-1.50	0.2-0.6	0.17-0.19	3.0-5.9	1.0-2.0	.37	.37	3	6	48
	5-8	40-45	1.35-1.55	0.06-0.2	0.14-0.16	5.0-8.9	0.5-1.0	.32	.32			
	8-13	20-30	1.45-1.55	0.2-0.6	0.17-0.19	3.0-5.9	0.5-1.0	.43	.43			
	13-18	10-20	1.50-1.60	0.6-2	0.10-0.13	0.0-2.9	0.0-0.5	.24	.43			
	18-30	10-20	1.50-1.60	0.6-2	0.10-0.13	0.0-2.9	0.0-0.5	.24	.43			
	30-40	---	---	0.0000-0.01	---	---	---	---	---			
370: Sumine-----	0-3	15-20	1.20-1.40	0.6-2	0.12-0.14	0.0-2.9	2.0-5.0	.28	.32	2	7	38
	3-26	25-35	1.40-1.60	0.6-2	0.10-0.13	0.0-2.9	0.5-3.0	.15	.55			
	26-30	---	---	0.0000-0.01	---	---	---	---	---			
Softscrabble, stony fine sandy loam----	0-11	10-20	1.20-1.40	0.6-2	0.08-0.10	0.0-2.9	1.0-5.0	.15	.43	3	7	38
	11-20	27-35	1.25-1.45	0.2-0.6	0.08-0.10	3.0-5.9	1.0-2.0	.20	.43			
	20-26	27-35	1.25-1.45	0.2-0.6	0.08-0.10	3.0-5.9	1.0-2.0	.20	.43			
	26-60	27-35	1.25-1.45	0.2-0.6	0.08-0.10	3.0-5.9	1.0-2.0	.15	.43			
	60-64	---	---	0.0000-0.01	---	---	---	---	---			
Hutchley-----	0-9	12-25	1.15-1.25	0.6-2	0.09-0.12	0.0-2.9	2.0-3.0	.10	.28	1	7	38
	9-14	28-35	1.40-1.50	0.2-0.6	0.09-0.11	3.0-5.9	1.0-2.0	.10	.43			
	14-18	---	---	0.0000-0.01	---	---	---	---	---			
371: Susanville-----	0-10	10-15	1.35-1.50	0.6-2	0.14-0.16	0.0-2.9	0.7-1.5	.43	.43	2	3	86
	10-16	40-60	1.30-1.50	0.06-0.2	0.12-0.15	6.0-8.9	0.5-1.0	.24	.24			
	16-39	35-60	1.30-1.55	0.06-0.2	0.10-0.14	6.0-8.9	0.7-1.0	.28	.28			
	39-62	25-50	1.35-1.55	0.2-0.6	0.11-0.14	3.0-5.9	0.5-1.0	.37	.37			
372: Susanville-----	0-3	10-15	1.35-1.50	0.6-2	0.14-0.16	0.0-2.9	0.7-1.5	.43	.43	2	3	86
	3-16	40-60	1.30-1.50	0.06-0.2	0.12-0.15	6.0-8.9	0.5-1.0	.24	.24			
	16-39	35-60	1.30-1.55	0.06-0.2	0.10-0.14	6.0-8.9	0.7-1.0	.28	.28			
	39-62	25-50	1.35-1.55	0.2-0.6	0.11-0.14	3.0-5.9	0.5-1.0	.37	.37			
Smocreek-----	0-13	18-27	1.35-1.50	0.6-2	0.12-0.14	0.0-2.9	1.0-3.0	.43	.43	5	4L	86
	13-19	18-27	1.35-1.50	0.6-2	0.12-0.14	0.0-2.9	1.0-3.0	.43	.43			
	19-60	25-35	1.35-1.50	0.06-0.2	0.10-0.14	3.0-5.9	1.0-3.0	.43	.43			
373: Swainow-----	0-3	10-15	1.35-1.50	0.6-2	0.08-0.11	0.0-2.9	2.0-4.0	.17	.24	4	8	0
	3-18	10-15	1.35-1.50	0.6-2	0.07-0.10	0.0-2.9	2.0-4.0	.15	.24			
	18-35	18-27	1.35-1.50	0.6-2	0.06-0.10	0.0-2.9	1.0-2.0	.15	.37			
	35-44	18-27	1.40-1.50	0.6-2	0.03-0.06	0.0-2.9	0.5-1.0	.10	.37			
	44-54	---	---	---	---	---	---	---	---			
Almanor-----	0-5	---	0.70-0.80	2-6	0.07-0.10	0.0-2.9	3.0-7.0	.10	.24	3	8	0
	5-17	---	0.80-0.85	2-6	0.07-0.10	0.0-2.9	1.0-4.0	.10	.24			
	17-40	---	0.80-0.85	2-6	0.07-0.10	0.0-2.9	1.0-4.0	.10	.24			
	40-50	---	---	0.0000-0.01	---	---	---	---	---			
Tahand-----	0-3	10-20	0.60-0.96	2-6	0.08-0.10	0.0-2.9	2.0-4.0	.15	.37	4	8	0
	3-8	10-20	0.60-0.96	2-6	0.08-0.10	0.0-2.9	2.0-4.0	.15	.37			
	8-15	25-27	0.96-1.10	0.6-2	0.10-0.12	3.0-5.9	1.0-2.0	.28	.32			
	15-34	27-35	0.96-1.10	0.2-0.6	0.14-0.18	3.0-5.9	0.5-1.0	.32	.32			
	34-46	27-35	0.96-1.10	0.2-0.6	0.14-0.18	3.0-5.9	0.5-1.0	.32	.32			
	46-56	---	---	0.0000-0.01	---	---	---	---	---			

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
374: Swainow, very stony sandy loam-----	0-3	10-15	1.35-1.50	0.6-2	0.08-0.11	0.0-2.9	2.0-4.0	.17	.24	4	8	0
	3-18	10-15	1.35-1.50	0.6-2	0.07-0.10	0.0-2.9	2.0-4.0	.15	.24			
	18-35	18-27	1.35-1.50	0.6-2	0.06-0.10	0.0-2.9	1.0-2.0	.15	.37			
	35-44	18-27	1.40-1.50	0.6-2	0.03-0.06	0.0-2.9	0.5-1.0	.10	.37			
	44-54	---	---	---	---	---	---	---	---			
Almanor-----	0-5	---	0.70-0.80	2-6	0.07-0.10	0.0-2.9	3.0-7.0	.10	.24	3	8	0
	5-17	---	0.80-0.85	2-6	0.07-0.10	0.0-2.9	1.0-4.0	.10	.24			
	17-40	---	0.80-0.85	2-6	0.07-0.10	0.0-2.9	1.0-4.0	.10	.24			
	40-50	---	---	0.0000-0.01	---	---	---	---	---			
375: Swainow-----	0-11	10-15	1.40-1.50	0.6-2	0.07-0.10	0.0-2.9	2.0-4.0	.15	.24	3	8	0
	11-36	18-27	1.35-1.50	0.6-2	0.06-0.10	0.0-2.9	1.0-2.0	.15	.37			
	36-47	18-27	1.40-1.50	0.6-2	0.03-0.06	0.0-2.9	0.5-1.0	.10	.37			
	47-51	---	---	0.0000-0.01	---	---	---	---	---			
Redriver-----	0-6	5-12	0.80-0.95	2-6	0.06-0.09	0.0-2.9	2.0-4.0	.10	.24	2	8	0
	6-14	8-15	0.80-1.00	2-6	0.03-0.08	0.0-2.9	0.5-1.0	.10	.24			
	14-28	8-15	0.80-1.00	2-6	0.03-0.08	0.0-2.9	0.5-1.0	.10	.24			
	28-32	---	---	0.0000-0.01	---	---	---	---	---			
376: Swainow-----	0-3	10-15	1.35-1.50	0.6-2	0.08-0.11	0.0-2.9	2.0-4.0	.17	.24	4	8	0
	3-18	10-15	1.35-1.50	0.6-2	0.07-0.10	0.0-2.9	2.0-4.0	.15	.24			
	18-35	18-27	1.35-1.50	0.6-2	0.06-0.10	0.0-2.9	1.0-2.0	.15	.37			
	35-44	18-27	1.40-1.50	0.6-2	0.03-0.06	0.0-2.9	0.5-1.0	.10	.37			
	44-54	---	---	---	---	---	---	---	---			
Tahand-----	0-3	10-20	0.60-0.96	2-6	0.08-0.10	0.0-2.9	2.0-4.0	.15	.37	4	5	56
	3-8	10-20	0.60-0.96	2-6	0.08-0.10	0.0-2.9	2.0-4.0	.15	.37			
	8-15	25-27	0.96-1.10	0.6-2	0.10-0.12	3.0-5.9	1.0-2.0	.28	.32			
	15-34	27-35	0.96-1.10	0.2-0.6	0.14-0.18	3.0-5.9	0.5-1.0	.32	.32			
	34-46	27-35	0.96-1.10	0.2-0.6	0.14-0.18	3.0-5.9	0.5-1.0	.32	.32			
	46-56	---	---	0.0000-0.01	---	---	---	---	---			
377: Tahand-----	0-3	10-20	0.60-0.96	2-6	0.08-0.10	0.0-2.9	2.0-4.0	.15	.37	4	8	0
	3-8	10-20	0.60-0.96	2-6	0.08-0.10	0.0-2.9	2.0-4.0	.15	.37			
	8-15	25-27	0.96-1.10	0.6-2	0.10-0.12	3.0-5.9	1.0-2.0	.28	.32			
	15-34	27-35	0.96-1.10	0.2-0.6	0.14-0.18	3.0-5.9	0.5-1.0	.32	.32			
	34-46	27-35	0.96-1.10	0.2-0.6	0.14-0.18	3.0-5.9	0.5-1.0	.32	.32			
	46-56	---	---	0.0000-0.01	---	---	---	---	---			
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TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
380: Tarmo-----	0-2	50-55	1.00-1.10	0.2-0.6	0.14-0.16	3.0-5.9	1.0-3.0	.37	.37	2	4	86
	2-38	60-65	0.90-1.00	0.01-0.06	0.11-0.13	6.0-8.9	0.5-1.0	.28	.28			
	38-60	55-65	1.00-1.05	0.01-0.06	0.08-0.11	6.0-8.9	0.5-1.0	.28	.28			
	60-65	20-40	1.00-1.05	0.2-0.6	0.08-0.12	3.0-5.9	0.5-1.0	.37	.37			
Playas-----	0-6	35-70	---	0.01-0.06	0.02-0.04	6.0-8.9	0.0-0.1	.37	.37	5	5	56
	6-60	35-70	---	0.01-0.06	0.02-0.04	6.0-8.9	---	.37	.37			
381: Tarmo-----	0-2	50-55	1.00-1.10	0.2-0.6	0.14-0.16	3.0-5.9	1.0-3.0	.37	.37	2	4	86
	2-38	60-65	0.90-1.00	0.01-0.06	0.11-0.13	6.0-8.9	0.5-1.0	.28	.28			
	38-60	55-65	1.00-1.05	0.01-0.06	0.08-0.11	6.0-8.9	0.5-1.0	.28	.28			
	60-65	20-40	1.00-1.05	0.2-0.6	0.08-0.12	3.0-5.9	0.5-1.0	.37	.37			
Springmeyer-----	0-11	20-27	1.25-1.45	0.2-0.6	0.14-0.16	3.0-5.9	1.0-3.0	.20	.24	4	6	48
	11-46	25-35	1.30-1.50	0.2-0.6	0.14-0.16	3.0-5.9	0.5-2.0	.20	.28			
	46-60	18-25	1.30-1.50	0.2-0.6	0.11-0.13	3.0-5.9	0.0-0.5	.20	.37			
Smocreek-----	0-13	18-27	1.35-1.50	0.6-2	0.12-0.14	0.0-2.9	1.0-3.0	.43	.43	5	4L	86
	13-19	18-27	1.35-1.50	0.6-2	0.12-0.14	0.0-2.9	1.0-3.0	.43	.43			
	19-60	25-35	1.35-1.50	0.06-0.2	0.10-0.14	3.0-5.9	1.0-3.0	.43	.43			
382: Toiyabe-----	0-7	2-4	1.45-1.65	6-20	0.06-0.08	0.0-2.9	1.0-2.0	.15	.20	2	2	134
	7-15	2-4	1.45-1.65	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.10	.20			
	15-19	---	---	0.0000-20	---	---	---	---	---			
Lasco-----	0-9	5-10	1.40-1.55	2-6	0.04-0.06	0.0-2.9	1.0-3.0	.10	.15	4	8	0
	9-49	10-18	1.45-1.60	2-6	0.08-0.10	0.0-2.9	0.5-1.0	.20	.24			
	49-59	---	---	0.0000-0.01	---	---	---	---	---			
Quartzburg-----	0-7	0-12	1.50-1.65	6-20	0.05-0.07	0.0-2.9	1.0-3.0	.17	.20	3	3	86
	7-26	0-10	1.55-1.70	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.20			
	26-30	---	---	---	---	---	---	---	---			
383: Toiyabe-----	0-7	2-4	1.45-1.65	6-20	0.05-0.07	0.0-2.9	1.0-2.0	.10	.20	2	3	86
	7-15	2-4	1.45-1.65	6-20	0.05-0.07	0.0-2.9	0.0-0.5	.10	.20			
	15-19	---	---	0.0000-20	---	---	---	---	---			
Lasco-----	0-9	5-10	1.40-1.55	2-6	0.04-0.06	0.0-2.9	1.0-3.0	.10	.15	4	8	0
	9-49	10-18	1.45-1.60	2-6	0.08-0.10	0.0-2.9	0.5-1.0	.20	.24			
	49-59	---	---	0.0000-0.01	---	---	---	---	---			
384: Torriorthents-----	0-3	5-10	1.20-1.40	0.6-2	0.01-0.08	0.0-2.9	1.0-2.0	.28	.28	5	4	86
	3-60	5-25	1.20-1.40	0.6-2	0.01-0.08	0.0-2.9	0.5-1.0	.28	.32			
Zorravista-----	0-4	0-5	1.45-1.60	20-20	0.06-0.08	0.0-2.9	0.5-1.0	.17	.17	5	2	134
	4-60	0-5	1.50-1.65	20-20	0.05-0.07	0.0-2.9	0.0-0.5	.17	.17			
385: Truax-----	0-11	10-15	1.40-1.55	2-6	0.09-0.12	0.0-2.9	1.0-3.0	.24	.32	5	3	86
	11-38	20-30	1.40-1.50	0.2-0.6	0.14-0.17	0.0-2.9	1.0-2.0	.28	.37			
	38-50	10-15	1.45-1.55	2-6	0.09-0.12	0.0-2.9	0.5-1.0	.24	.24			
	50-52	---	---	0.01-0.02	---	---	0.5-1.0	---	---			
	52-60	0-10	1.40-1.50	2-6	0.08-0.11	0.0-2.9	0.2-0.5	.20	.20			
386: Truckee-----	0-17	10-20	1.35-1.55	0.6-2	0.14-0.16	0.0-2.9	1.0-3.0	.37	.37	5	4L	86
	17-69	18-25	1.40-1.60	0.2-0.6	0.15-0.18	3.0-5.9	0.5-2.0	.24	.24			
387: Truckee-----	0-12	28-35	1.15-1.30	0.2-0.6	0.16-0.19	3.0-5.9	1.0-3.0	.32	.32	5	6	48
	12-69	18-25	1.30-1.50	0.2-0.6	0.15-0.18	3.0-5.9	---	.24	.24			
Humboldt-----	0-21	40-50	1.00-1.15	0.06-0.2	0.17-0.19	3.0-5.9	2.0-3.0	.28	.28	5	4	86
	21-60	35-45	1.10-1.20	0.2-0.6	0.17-0.19	3.0-5.9	0.5-2.0	.28	.28			
388: Tunnison-----	0-1	55-65	1.10-1.30	0.06-0.2	0.06-0.09	6.0-8.9	0.5-1.0	.10	.37	2	8	0
	1-31	60-70	1.10-1.30	0.06-0.2	0.12-0.15	6.0-8.9	0.5-1.0	.20	.20			
	31-38	---	---	0.0000-0.01	---	---	---	---	---			
	38-48	---	---	0.0000-0.01	---	---	---	---	---			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
389, Tunnison-----	0-1	55-65	1.20-1.40	0.06-0.2	0.06-0.10	6.0-8.9	0.5-1.0	.10	.37	2	8	0
	1-31	60-70	1.10-1.30	0.06-0.2	0.12-0.15	6.0-8.9	0.5-1.0	.20	.20			
	31-38	---	---	0.0000-0.01	---	---	---	---	---			
	38-48	---	---	0.0000-0.01	---	---	---	---	---			
Devada-----	0-4	15-27	1.10-1.30	0.6-2	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	4-13	40-60	1.20-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	13-23	---	---	0.0000-0.01	---	---	---	---	---			
390, Tunnison-----	0-1	55-65	1.20-1.40	0.06-0.2	0.06-0.10	6.0-8.9	0.5-1.0	.10	.37	2	8	0
	1-31	60-70	1.10-1.30	0.06-0.2	0.12-0.15	6.0-8.9	0.5-1.0	.20	.20			
	31-38	---	---	0.0000-0.01	---	---	---	---	---			
	38-48	---	---	0.0000-0.01	---	---	---	---	---			
Devada-----	0-7	15-27	1.10-1.30	0.6-2	0.04-0.07	0.0-2.9	1.0-3.0	.05	.37	1	8	0
	7-15	40-60	1.20-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	15-19	---	---	0.0000-0.01	---	---	---	---	---			
391, Ulhalf-----	0-4	15-20	1.40-1.50	0.6-2	0.10-0.14	0.0-2.9	1.0-3.0	.20	.37	4	8	0
	4-18	20-25	1.40-1.50	0.6-2	0.08-0.14	0.0-2.9	1.0-2.0	.20	.37			
	18-54	25-35	1.35-1.50	0.2-0.6	0.10-0.17	3.0-5.9	0.5-1.0	.20	.37			
	54-64	---	---	---	---	---	---	---	---			
392, Ulhalf-----	0-4	15-20	1.40-1.50	2-6	0.07-0.10	0.0-2.9	1.0-3.0	.15	.37	4	8	0
	4-18	20-25	1.40-1.50	0.6-2	0.08-0.14	0.0-2.9	1.0-2.0	.20	.37			
	18-54	25-35	1.35-1.50	0.2-0.6	0.10-0.17	3.0-5.9	0.5-1.0	.20	.37			
	54-64	---	---	---	---	---	---	---	---			
393, Ulhalf-----	0-4	15-20	1.45-1.55	2-6	0.06-0.09	0.0-2.9	1.0-3.0	.15	.24	4	8	0
	4-18	20-25	1.40-1.50	0.6-2	0.08-0.14	0.0-2.9	1.0-2.0	.20	.37			
	18-54	25-35	1.35-1.50	0.2-0.6	0.10-0.17	3.0-5.9	0.5-1.0	.20	.37			
	54-64	---	---	---	---	---	---	---	---			
Gavel-----	0-12	10-20	1.40-1.55	0.6-2	0.05-0.07	0.0-2.9	1.0-2.0	.10	.24	3	8	0
	12-27	20-27	1.35-1.55	0.6-2	0.08-0.10	0.0-2.9	1.0-2.0	.15	.37			
	27-37	---	---	---	---	---	---	---	---			
394, Ulhalf-----	0-4	15-20	1.45-1.55	2-6	0.06-0.09	0.0-2.9	1.0-3.0	.15	.24	4	8	0
	4-18	20-25	1.40-1.50	0.6-2	0.08-0.14	0.0-2.9	1.0-2.0	.20	.37			
	18-54	25-35	1.35-1.50	0.2-0.6	0.10-0.17	3.0-5.9	0.5-1.0	.20	.37			
	54-64	---	---	---	---	---	---	---	---			
Southpac-----	0-7	10-18	1.35-1.50	0.6-2	0.06-0.12	0.0-2.9	1.0-3.0	.10	.37	5	8	0
	7-35	15-27	1.35-1.50	0.6-2	0.06-0.12	0.0-2.9	1.0-3.0	.10	.37			
	35-61	27-30	1.30-1.45	0.2-0.6	0.10-0.14	3.0-5.9	1.0-2.0	.20	.43			
395, Verdico-----	0-3	8-18	1.35-1.50	2-6	0.08-0.13	0.0-2.9	0.8-2.0	.28	.32	3	5	56
	3-29	45-60	1.25-1.40	0.01-0.06	0.13-0.18	6.0-8.9	0.5-1.0	.28	.32			
	29-60	---	---	0.0015-0.01	---	---	---	---	---			
Chalco-----	0-4	10-15	1.35-1.50	2-6	0.11-0.13	0.0-2.9	0.0-2.0	.20	.32	2	5	56
	4-15	40-60	1.25-1.45	0.01-0.06	0.12-0.15	6.0-8.9	0.0-0.5	.28	.37			
	15-19	---	---	0.0029-0.01	---	---	---	---	---			
396, Wespac-----	0-10	0-5	1.55-1.65	6-20	0.06-0.08	0.0-2.9	1.0-2.0	.28	.28	5	1	180
	10-19	27-35	1.40-1.55	0.06-0.2	0.14-0.16	3.0-5.9	0.5-1.0	.37	.37			
	19-60	15-25	1.45-1.55	0.6-2	0.09-0.12	0.0-2.9	0.0-0.5	.49	.49			
397, Wespac-----	0-10	18-25	1.35-1.55	0.6-2	0.14-0.18	0.0-2.9	1.0-2.0	.49	.49	5	6	48
	10-19	27-35	1.40-1.55	0.06-0.2	0.14-0.16	3.0-5.9	0.5-1.0	.37	.37			
	19-60	15-25	1.45-1.55	0.6-2	0.09-0.12	0.0-2.9	0.0-0.5	.49	.49			
Playas-----	0-6	35-70	---	0.01-0.06	0.02-0.04	6.0-8.9	0.0-0.1	.37	.37	5	5	56
	6-60	35-70	---	0.01-0.06	0.02-0.04	6.0-8.9	---	.37	.37			
398, Weste-----	0-9	10-15	1.35-1.50	2-6	0.08-0.11	0.0-2.9	2.0-4.0	.10	.24	2	8	0
	9-29	20-25	1.35-1.50	0.6-2	0.06-0.10	0.0-2.9	1.0-2.0	.10	.37			
	29-33	---	---	0.0000-0.01	---	---	---	---	---			
Baileycreek-----	0-8	10-15	1.40-1.50	2-6	0.09-0.12	0.0-2.9	2.0-4.0	.15	.37	3	8	0
	8-26	20-27	1.40-1.50	0.6-2	0.06-0.11	0.0-2.9	1.0-2.0	.10	.37			
	26-30	---	---	0.0000-0.01	---	---	---	---	---			

TABLE 18.--PHYSICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
Tahand-----	0-3	10-20	0.60-0.96	2-6	0.08-0.10	0.0-2.9	2.0-4.0	.15	.37	4	5	56
	3-8	10-20	0.60-0.96	2-6	0.08-0.10	0.0-2.9	2.0-4.0	.15	.37			
	8-15	25-27	0.96-1.10	0.6-2	0.10-0.12	3.0-5.9	1.0-2.0	.28	.32			
	15-34	27-35	0.96-1.10	0.2-0.6	0.14-0.18	3.0-5.9	0.5-1.0	.32	.32			
	34-46	27-35	0.96-1.10	0.2-0.6	0.14-0.18	3.0-5.9	0.5-1.0	.32	.32			
	46-56	---	---	0.0000-0.01	---	---	---	---	---			
399: Weste-----	0-14	10-15	1.35-1.50	2-6	0.08-0.11	0.0-2.9	2.0-4.0	.10	.24	2	8	0
	14-24	20-25	1.35-1.50	0.6-2	0.06-0.10	0.0-2.9	1.0-2.0	.10	.37			
	24-34	---	---	0.0000-0.01	---	---	---	---	---			
Rock outcrop-----	0-60	---	---	---	---	---	---	---	---	-	8	0
400: Whitinger-----	0-6	20-25	1.40-1.50	0.6-2	0.10-0.14	0.0-2.9	1.0-2.0	.20	.32	2	7	38
	6-15	20-28	1.40-1.50	0.2-0.6	0.07-0.10	0.0-2.9	0.0-0.5	.10	.28			
	15-26	20-28	1.40-1.50	0.2-0.6	0.07-0.10	0.0-2.9	0.0-0.5	.10	.28			
	26-36	---	---	0.0000-0.01	---	---	---	---	---			
Devada-----	0-7	15-27	1.10-1.30	0.6-2	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	7-15	40-60	1.20-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	15-19	---	---	0.0000-0.01	---	---	---	---	---			
401: Whorled-----	0-5	8-12	0.70-0.80	2-6	0.05-0.07	0.0-2.9	3.0-7.0	.10	.24	2	8	0
	5-27	8-15	0.80-0.85	2-6	0.03-0.07	0.0-2.9	1.0-4.0	.10	.24			
	27-31	---	---	---	---	---	---	---	---			
Almanor-----	0-5	---	0.70-0.80	2-6	0.07-0.10	0.0-2.9	3.0-7.0	.10	.24	3	8	0
	5-17	---	0.80-0.85	2-6	0.07-0.10	0.0-2.9	1.0-4.0	.10	.24			
	17-40	---	0.80-0.85	2-6	0.07-0.10	0.0-2.9	1.0-4.0	.10	.24			
	40-50	---	---	0.0000-0.01	---	---	---	---	---			
402: Wylo-----	0-7	18-27	1.20-1.30	0.2-0.6	0.09-0.11	0.0-2.9	1.0-2.0	.15	.37	1	7	38
	7-11	35-40	1.10-1.30	0.06-0.2	0.13-0.15	6.0-8.9	1.0-2.0	.15	.32			
	11-15	40-50	1.10-1.30	0.06-0.2	0.13-0.15	6.0-8.9	1.0-2.0	.15	.32			
	15-19	---	---	0.0000-0.01	---	---	---	---	---			
Bucklake-----	0-8	20-25	1.45-1.55	0.6-2	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37	2	8	0
	8-12	27-35	1.40-1.55	0.2-0.6	0.11-0.14	3.0-5.9	0.5-1.0	.20	.28			
	12-24	35-50	1.35-1.50	0.06-0.2	0.10-0.12	6.0-8.9	0.5-1.0	.20	.28			
	24-34	---	---	---	---	---	---	---	---			
403: Wylo-----	0-7	18-27	1.20-1.30	0.2-0.6	0.09-0.11	0.0-2.9	1.0-2.0	.15	.37	1	7	38
	7-11	35-40	1.10-1.30	0.06-0.2	0.13-0.15	6.0-8.9	1.0-2.0	.15	.32			
	11-15	40-50	1.10-1.30	0.06-0.2	0.13-0.15	6.0-8.9	1.0-2.0	.15	.32			
	15-19	---	---	0.0000-0.01	---	---	---	---	---			
Diaz-----	0-3	18-27	1.35-1.50	0.6-2	0.08-0.10	0.0-2.9	1.0-2.0	.17	.55	2	8	0
	3-7	27-35	1.30-1.45	0.2-0.6	0.17-0.19	3.0-5.9	0.5-1.0	.37	.55			
	7-25	40-60	1.25-1.40	0.06-0.2	0.14-0.16	6.0-8.9	0.5-1.0	.24	.37			
	25-32	---	---	---	---	---	---	---	---			
Brubeck-----	0-2	40-60	1.10-1.25	0.06-0.2	0.07-0.10	6.0-8.9	1.0-2.0	.15	.37	2	8	0
	2-32	40-60	1.15-1.30	0.06-0.2	0.14-0.16	6.0-8.9	0.5-1.0	.28	.28			
	32-42	---	---	0.01-20	---	---	---	---	---			
404: Wylo-----	0-7	18-27	1.20-1.30	0.2-0.6	0.09-0.11	0.0-2.9	1.0-2.0	.15	.37	1	7	38
	7-11	35-40	1.10-1.30	0.06-0.2	0.13-0.15	6.0-8.9	1.0-2.0	.15	.32			
	11-15	40-50	1.10-1.30	0.06-0.2	0.13-0.15	6.0-8.9	1.0-2.0	.15	.32			
	15-19	---	---	0.0000-0.01	---	---	---	---	---			
Pickup-----	0-10	18-25	1.15-1.35	0.2-0.6	0.08-0.12	0.0-2.9	1.0-2.0	.28	.43	2	7	38
	10-26	40-55	1.20-1.35	0.06-0.2	0.10-0.13	3.0-5.9	0.5-1.0	.10	.32			
	26-30	---	---	0.0000-0.01	---	---	---	---	---			
Bucklake-----	0-8	20-25	1.45-1.55	0.6-2	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37	2	8	0
	8-12	27-35	1.40-1.55	0.2-0.6	0.11-0.14	3.0-5.9	0.5-1.0	.20	.28			
	12-24	35-50	1.35-1.50	0.06-0.2	0.10-0.12	6.0-8.9	0.5-1.0	.20	.28			
	24-34	---	---	---	---	---	---	---	---			
405: Xerolls-----	0-11	0-10	1.35-1.50	0.6-20	0.04-0.12	0.0-2.9	1.0-3.0	.28	.28	5	2	134
	11-60	0-25	1.35-1.50	0.06-20	0.04-0.12	0.0-2.9	1.0-3.0	.20	.20			
Aquolls-----	0-7	5-10	1.35-1.50	0.6-2	0.04-0.12	0.0-2.9	1.0-3.0	.28	.32	5	4	86
	7-38	5-25	1.35-1.50	0.6-2	0.04-0.12	0.0-2.9	1.0-3.0	.20	.28			
	38-60	0-5	1.35-1.50	0.6-2	0.04-0.12	0.0-2.9	1.0-3.0	.20	.28			

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
406: Yobe-----	0-4 4-60	15-25 18-30	1.30-1.50 1.25-1.45	0.2-0.6 0.06-0.2	0.11-0.15 0.11-0.15	0.0-2.9 3.0-5.9	1.0-2.0 0.0-0.5	.49 .43	.49 .43	5	4L	86
407: Zorravista-----	0-4 4-60	0-5 0-5	1.45-1.60 1.50-1.65	20-20 20-20	0.06-0.08 0.05-0.07	0.0-2.9 0.0-2.9	0.5-1.0 0.0-0.5	.17 .17	.17 .17	5	2	134
408: Zorravista-----	0-4 4-60	0-5 0-5	1.45-1.60 1.50-1.65	20-20 20-20	0.05-0.07 0.05-0.07	0.0-2.9 0.0-2.9	0.5-1.0 0.0-0.5	.17 .17	.17 .17	5	1	180
409: Water-----	---	---	---	---	---	---	---	---	---	-	---	---

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS
(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
101: Almanor-----	0-5	20-30	---	6.1-6.5	0	0	0	0
	5-17	15-25	---	6.1-6.5	0	0	0	0
	17-40	15-25	---	6.1-6.5	0	0	0	0
	40-50	---	---	---	---	---	---	---
Whorled-----	0-5	20-30	---	6.1-6.5	0	0	0	0
	5-27	15-25	---	6.1-6.5	0	0	0	0
	27-31	---	---	---	---	---	---	---
Inville-----	0-10	10-15	---	5.6-6.5	0	0	0	0
	10-44	15-25	---	6.1-6.5	0	0	0	0
	44-60	---	---	---	---	---	---	---
102: Alomax, very stony sandy loam-----	0-3	5.0-15	---	6.1-7.3	0	0	0	0
	3-15	5.0-15	---	6.1-7.3	0	0	0	0
	15-25	---	---	---	---	---	---	---
Glean-----	0-14	5.0-15	---	6.1-7.3	0	0	0	0
	14-44	5.0-15	---	6.1-7.3	0	0	0	0
	44-48	---	---	---	---	---	---	---
Rock outcrop-----	0-60	---	---	---	---	---	---	---
103: Anawalt-----	0-4	15-20	---	6.6-8.4	---	0	0	0
	4-16	25-40	---	6.6-8.4	---	0	0.0-2.0	0
	16-20	---	---	---	---	---	---	---
Ninemile-----	0-2	20-28	---	6.1-7.3	0	0	0	0
	2-11	38-54	---	6.6-7.3	0	0	0	0
	11-18	38-54	---	6.6-7.3	0	0	0	0
	18-22	---	---	---	---	---	---	---
104: Ardep-----	0-6	5.0-15	---	7.9-8.4	3-8	0	0.0-4.0	1-2
	6-34	0.0-15	---	7.9-8.4	15-22	0	0.0-4.0	4-13
	34-60	0.0-10	---	7.9-9.0	10-22	0	4.0-16.0	10-30
105: Ardep-----	0-6	5.0-15	---	7.9-8.4	3-8	0	0.0-4.0	1-2
	6-34	0.0-10	---	7.9-8.4	10-22	0	4.0-16.0	4-13
	34-60	0.0-10	---	7.9-8.4	10-22	0	4.0-16.0	10-30
106: Ardep-----	0-6	5.0-15	---	8.5-9.0	3-8	0	4.0-8.0	1-2
	6-20	0.0-15	---	8.5-9.0	15-22	0	4.0-8.0	4-13
	20-60	0.0-10	---	8.5-9.0	10-22	0	8.0-32.0	30-100
107: Ardep-----	0-3	5.0-15	---	7.9-8.4	3-8	0	0.0-4.0	1-2
	3-59	0.0-10	---	7.9-9.0	10-22	0	4.0-16.0	4-13
	59-60	0.0-10	---	7.9-9.0	10-22	0	4.0-16.0	10-30
108: Ardep-----	0-5	5.0-15	---	7.9-8.4	3-8	0	0.0-4.0	1-2
	5-36	0.0-15	---	7.9-8.4	15-22	0	0.0-4.0	4-13
	36-60	0.0-10	---	7.9-9.0	10-22	0	4.0-16.0	10-30
Wespac-----	0-5	5.0-10	---	7.4-8.4	0	0	0.0-4.0	0-13
	5-12	25-35	---	7.9-9.0	1-3	0	4.0-8.0	13-60
	12-60	10-20	---	7.9-8.4	1-5	0-1	8.0-16.0	60-100
Zorravista-----	0-4	0.0-5.0	---	7.9-8.4	1-5	0	0.0-4.0	0
	4-60	0.0-3.0	---	7.4-9.0	0-5	0	0.0-4.0	0
109: Artray-----	0-9	5.0-10	---	6.1-6.5	0	0	0	0
	9-48	5.0-10	---	6.1-7.3	0	0	0	0
	48-60	5.0-10	---	6.6-7.3	0	0	0	0
110: Badenaugh-----	0-13	10-20	---	6.6-7.3	0	0	0	0
	13-29	10-20	---	6.6-7.3	0	0	0	0
	29-60	5.0-15	---	6.6-7.3	0	0	0	0

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
111, Baileycreek-----	0-9	20-50	---	6.1-6.5	0	0	0	0
	9-30	20-30	---	6.1-6.5	0	0	0	0
	30-60	---	---	---	0	0	---	---
Weste-----	0-12	20-50	---	6.1-6.5	0	0	0	0
	12-26	20-30	---	6.1-6.5	0	0	0	0
	26-30	---	---	---	---	---	---	---
112, Baileycreek-----	0-9	20-50	---	6.1-6.5	0	0	0	0
	9-23	20-30	---	6.1-6.5	0	0	0	0
	23-27	---	---	---	---	---	---	---
Weste-----	0-12	20-50	---	6.1-6.5	0	0	0	0
	12-34	20-30	---	6.1-6.5	0	0	0	0
	34-38	---	---	---	---	---	---	---
113, Baileycreek-----	0-10	20-50	---	6.1-6.5	0	0	0	0
	10-21	20-30	---	6.1-6.5	0	0	0	0
	21-25	---	---	---	0	0	---	---
Weste-----	0-14	20-50	---	6.1-6.5	0	0	0	0
	14-29	20-30	---	6.1-6.5	0	0	0	0
	29-33	---	---	---	---	---	---	---
114, Barnard-----	0-3	5.0-15	---	6.1-7.3	0	0	0	0
	3-7	5.0-15	---	6.1-7.3	0	0	0	0
	7-11	10-30	---	6.1-7.3	0	0	0	0
	11-20	30-35	---	6.6-7.8	0	0	0.0-2.0	0
	20-26	---	---	---	---	---	---	---
	26-60	5.0-10	---	6.6-7.8	0	0	0	0
115, Beckwourth-----	0-12	5.0-20	---	7.4-7.8	0	0	0.0-4.0	0
	12-23	5.0-15	---	7.4-8.4	0	0	0.0-4.0	0
	23-60	5.0-15	---	7.4-8.4	0	0	0.0-4.0	0
Fordney-----	0-10	5.0-10	---	6.6-8.4	0	0	0	0
	10-60	5.0-10	---	6.6-8.4	0	0	0	0
116, Bieber-----	0-6	15-25	---	6.1-7.3	0	0	0	0
	6-11	30-50	---	6.6-7.8	0	0	0.0-2.0	0
	11-18	30-50	---	6.6-7.8	0	0	0.0-2.0	0
	18-60	---	---	---	---	---	---	---
117, Biscaro-----	0-10	15-25	---	6.6-8.4	0	0	0.0-2.0	1-5
	10-21	15-25	---	6.6-8.4	0	0	0.0-2.0	8-12
	21-38	5.0-15	---	7.4-8.4	0-1	0	0.0-2.0	5-8
	38-60	---	---	---	---	---	0	---
118, Biscaro-----	0-10	5.0-15	---	6.6-8.4	0	0	0.0-2.0	1-5
	10-21	15-25	---	6.6-8.4	0	0	0.0-2.0	8-12
	21-38	5.0-15	---	7.4-8.4	0-1	0	0.0-2.0	5-8
	38-60	---	---	---	---	---	0	---
Calnat-----	0-8	5.0-10	---	7.9-9.0	1-5	0	4.0-8.0	15-25
	8-25	15-20	---	7.9-9.0	5-10	0	8.0-16.0	25-50
	25-38	10-20	---	7.9-9.0	15-25	0	16.0-32.0	50-100
	38-42	---	---	---	---	---	---	---
119, Biscaro-----	0-2	10-20	---	6.6-7.8	0-1	0	0	0-5
	2-27	25-35	---	6.6-8.4	1-3	0	0.0-2.0	8-12
	27-37	15-30	---	7.4-8.4	1-3	0	0.0-2.0	0-10
	37-60	---	---	---	---	---	---	---
Playas, silty clay---	0-6	15-40	---	8.5-9.0	5-15	1-5	16.0-32.0	0
	6-60	15-40	---	8.5-9.0	5-15	1-5	16.0-32.0	0
120, Blickenstaff-----	0-15	5.0-15	---	7.9-9.6	1-3	0	0.0-4.0	0-4
	15-34	5.0-10	---	8.5-9.6	1-5	0	0.0-4.0	4-13
	34-60	5.0-10	---	8.5-9.6	5-15	0	0.0-4.0	4-13

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
121: Honeylake-----	0-16	10-25	---	8.5-9.6	1-3	0	4.0-8.0	13-80
	16-26	5.0-10	---	8.5-9.6	1-5	0	4.0-8.0	13-30
	26-41	5.0-10	---	8.5-9.0	5-15	0	4.0-8.0	13-30
	41-56	5.0-10	---	8.5-9.0	5-15	0	4.0-8.0	13-30
	56-67	5.0-10	---	8.5-9.0	2-5	0	0.0-4.0	4-13
122: Robert-----	0-6	10-20	---	7.4-8.4	1-3	0	2.0-4.0	5-13
	6-14	20-30	---	7.9-9.0	1-4	0	4.0-16.0	50-200
	14-26	5.0-15	---	7.9-9.0	1-5	0	8.0-32.0	50-100
	26-60	5.0-15	---	7.9-9.0	1-5	0	8.0-32.0	50-100
123: Robert-----	0-4	10-20	---	7.9-9.0	1-3	0	4.0-8.0	13-30
	4-20	20-30	---	7.9-9.0	1-4	0	4.0-16.0	50-200
	20-28	15-25	---	7.9-9.0	1-5	0	8.0-16.0	50-100
	28-60	10-20	---	7.9-9.0	1-2	0-1	4.0-8.0	30-50
124: Bonta-----	0-12	0.0-10	---	6.1-7.3	0	0	0	0
	12-36	5.0-15	---	5.1-6.5	0	0	0	0
	36-40	---	---	---	---	---	---	---
125: Bonta-----	0-12	0.0-10	---	6.1-7.3	0	0	0	0
	12-36	5.0-15	---	5.1-6.5	0	0	0	0
	36-40	---	---	---	---	---	---	---
126: Bonta-----	0-12	0.0-10	---	6.1-7.3	0	0	0	0
	12-34	5.0-15	---	5.1-6.5	0	0	0	0
	34-38	---	---	---	---	---	---	---
127: Boulder Lake-----	0-12	35-65	---	6.1-7.8	0	0	0	0
	12-43	30-60	---	6.6-8.4	0	0	0.0-2.0	0
	43-60	20-30	---	7.4-8.4	0-4	0	0.0-2.0	0
128: Boulder Lake-----	0-12	35-65	---	6.1-7.8	0	0	0	0
	12-43	30-60	---	6.6-8.4	0	0	0.0-2.0	0
	43-60	20-30	---	7.4-8.4	0-4	0	0.0-2.0	0
129: Brubeck-----	0-2	30-45	---	6.6-8.4	0-3	0	0.0-2.0	0
	2-32	30-45	---	6.6-8.4	0-8	0	0.0-2.0	0
	32-42	---	---	---	---	---	---	---
130: Brubeck-----	0-2	30-45	---	6.6-8.4	0-3	0	0.0-2.0	0
	2-32	30-45	---	6.6-8.4	0-8	0	0.0-2.0	0
	32-42	---	---	---	---	---	---	---
131: Brubeck-----	0-2	30-45	---	6.6-8.4	0-3	0	0.0-2.0	0
	2-32	30-45	---	6.6-8.4	0-8	0	0.0-2.0	0
	32-42	---	---	---	---	---	---	---
Diaz-----	0-3	10-25	---	6.6-7.8	0	0	0	0
	3-7	15-30	---	7.4-8.4	1-2	0	0.0-2.0	0
	7-25	30-45	---	7.4-8.4	1-2	0	0.0-2.0	0
	25-32	---	---	---	---	---	---	---
132: Brubeck-----	0-2	30-45	---	6.6-8.4	0-3	0	0.0-2.0	0
	2-32	30-45	---	6.6-8.4	0-8	0	0.0-2.0	0
	32-42	---	---	---	---	---	---	---
Loomis-----	0-2	15-20	---	6.6-7.8	0	0	0	0
	2-6	20-25	---	6.6-7.8	0	0	0	0
	6-11	25-35	---	6.6-7.8	0	0	0	0
	11-15	---	---	---	---	---	---	---
133: Buckbay-----	0-12	15-25	---	6.1-7.3	0	0	0	0
	12-22	15-25	---	6.1-7.3	0	0	0	0
	22-29	15-25	---	6.1-7.3	0	0	0	0
	29-39	---	---	---	---	---	---	---

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
Orhood-----	0-4	15-25	---	6.6-7.3	0	0	0	0
	4-9	15-25	---	6.6-7.3	0	0	0	0
	9-19	25-30	---	6.6-7.3	0	0	0	0
	19-23	---	---	---	---	---	---	---
Devada-----	0-7	20-30	---	6.1-7.8	0	0	0	0
	7-15	32-48	---	6.1-7.8	0	0	0	0
	15-19	---	---	---	---	---	---	---
134: Buckbay-----	0-11	15-25	---	6.1-7.3	0	0	0	0
	11-19	15-25	---	6.1-7.3	0	0	0	0
	19-29	15-25	---	6.1-7.3	0	0	0	0
	29-33	---	---	---	---	---	---	---
Orhood-----	0-4	15-25	---	6.6-7.3	0	0	0	0
	4-9	15-25	---	6.6-7.3	0	0	0	0
	9-19	25-30	---	6.6-7.3	0	0	0	0
	19-23	---	---	---	---	---	---	---
Fredonyer-----	0-4	25-45	---	6.1-7.3	0	0	0	0
	4-12	30-40	---	6.1-7.3	0	0	0	0
	12-28	30-40	---	6.1-7.3	0	0	0	0
	28-38	---	---	---	---	---	---	---
135: Bucklake-----	0-8	10-20	---	6.1-7.3	0	0	0	0
	8-12	20-30	---	6.6-7.8	0	0	0	0
	12-24	25-40	---	6.6-7.8	0	0	0	0
	24-34	---	---	---	---	---	---	---
Corral-----	0-4	10-20	---	6.6-7.3	0	0	0	0
	4-12	20-35	---	6.6-7.8	0	0	0	0
	12-22	---	---	---	---	---	---	---
Rubble land-----	0-60	---	---	---	0	0	0	0
136: Bunanch-----	0-7	15-25	---	6.1-6.5	0	0	0	0
	7-22	20-35	---	6.1-7.3	0	0	0	0
	22-63	25-40	---	6.1-7.3	0	0	0	0
137: Cagwin-----	0-8	5.0-15	---	5.1-6.5	0	0	0	0
	8-36	1.0-5.0	---	5.1-6.5	0	0	0	0
	36-39	---	---	---	---	---	---	---
138: Cagwin-----	0-8	5.0-15	---	5.1-6.5	0	0	0	0
	8-36	1.0-5.0	---	5.1-6.5	0	0	0	0
	36-39	---	---	---	---	---	---	---
139: Calnat-----	0-5	10-20	---	7.9-9.0	1-5	0	4.0-8.0	15-25
	5-13	15-20	---	7.9-9.0	5-10	0	8.0-16.0	25-50
	13-28	10-20	---	7.9-9.0	15-25	0	16.0-32.0	50-100
	28-60	---	---	---	---	---	---	---
140: Calneva-----	0-6	10-20	---	7.9-8.4	1-2	0	4.0-8.0	13-30
	6-16	40-60	---	7.9-9.0	2-5	0	4.0-16.0	13-100
	16-36	15-30	---	7.9-9.0	2-5	0	4.0-16.0	13-100
	36-72	10-20	---	7.9-9.0	2-5	1-2	8.0-32.0	13-200
141: Calneva-----	0-6	10-20	---	7.9-8.4	1-2	0	4.0-8.0	13-30
	6-16	40-60	---	7.9-9.0	2-5	0	4.0-16.0	13-100
	16-36	15-30	---	7.9-9.0	2-5	0	4.0-16.0	13-100
	36-72	10-20	---	7.9-9.0	2-5	1-2	8.0-32.0	13-200
Playas, silty clay---	0-6	15-40	---	8.5-9.0	5-15	1-5	16.0-32.0	0
	6-60	15-40	---	8.5-9.0	5-15	1-5	16.0-32.0	0
142: Calpine-----	0-20	10-20	---	6.1-7.3	0	0	0	0
	20-35	10-15	---	6.1-7.3	0	0	0	0
	35-60	5.0-15	---	6.1-7.3	0	0	0	0
143: Calpine-----	0-24	10-20	---	6.1-7.3	0	0	0	0
	24-60	10-15	---	6.1-7.3	0	0	0	0

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	umhos/cm	
144: Calpine-----	0-24 24-60	10-20 10-15	--- ---	5.6-7.3 5.6-7.3	0 0	0 0	0 0	0 0
145: Calpine-----	0-21 21-46 46-81	10-20 10-15 5.0-15	--- --- ---	5.6-7.3 5.6-7.3 6.1-7.3	0 0 0	0 0 0	0 0 0	0 0 0
146: Indiano-----	0-7 7-27 27-31	10-20 15-30 ---	--- --- ---	6.1-7.3 6.1-7.3 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
Chalco-----	0-4 4-15 15-19	10-15 30-50 ---	--- --- ---	6.1-7.8 6.1-8.4 ---	0 0 ---	0 0 ---	0.0-2.0 0.0-2.0 ---	0 0 ---
147: Capona-----	0-11 11-39 39-43	5.0-10 10-15 ---	--- --- ---	6.1-7.3 6.1-7.3 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
Rock outcrop-----	0-60	---	---	---	---	---	---	---
148: Cewat-----	0-4 4-9 9-21 21-25	8.0-16 9.0-14 9.0-14 ---	--- --- --- ---	6.6-7.8 7.4-8.4 7.4-8.4 ---	0 0-2 0-2 ---	0 0 0 ---	0.0-2.0 0.0-2.0 0.0-2.0 ---	0 0-2 0-2 ---
149: Cewat-----	0-4 4-9 9-21 21-25	8.0-16 9.0-14 9.0-14 ---	--- --- --- ---	6.6-7.8 7.4-8.4 7.4-8.4 ---	0 0-2 0-2 ---	0 0 0 ---	0.0-2.0 0.0-2.0 0.0-2.0 ---	0 0-2 0-2 ---
McConnel-----	0-3 3-60	5.0-15 1.0-5.0	--- ---	7.4-8.4 7.4-8.4	0 0-3	0 0	0.0-2.0 2.0-32.0	0-5 1-12
Toulon-----	0-3 3-14 14-37 37-60	5.0-10 5.0-10 0.0-3.0 0.0-3.0	--- --- --- ---	7.9-9.0 7.9-9.0 7.9-9.0 7.9-9.0	0-5 1-5 1-5 1-5	0-2 0-2 0-2 0-2	2.0-4.0 2.0-4.0 2.0-4.0 2.0-4.0	0-12 0-12 0-12 0-12
150: Chappuis-----	0-7 7-17 17-60	5.0-15 40-60 40-60	--- --- ---	7.4-8.4 7.4-9.0 7.9-9.0	1-2 1-3 3-6	0 0 0	0.0-2.0 2.0-8.0 16.0-32.0	5-13 20-50 30-60
151: Chappuis-----	0-10 10-19 19-25 25-60	10-20 40-60 40-60 10-20	--- --- --- ---	7.4-8.4 7.4-9.0 7.9-9.0 7.9-9.0	1-2 1-3 3-6 3-6	0 0 0 0	0.0-2.0 2.0-8.0 16.0-32.0 16.0-32.0	5-13 20-50 30-60 40-100
152: Chimney-----	0-13 13-35 35-60	5.0-10 1.0-5.0 1.0-5.0	--- --- ---	6.1-6.5 6.1-7.3 6.1-7.3	0 0 0	0 0 0	0 0 0	0 0 0
153: Chimney-----	0-13 13-35 35-60	5.0-10 1.0-5.0 1.0-5.0	--- --- ---	6.1-6.5 6.1-7.3 6.1-7.3	0 0 0	0 0 0	0 0 0	0 0 0
154: Chimney-----	0-13 13-35 35-60	5.0-10 1.0-5.0 1.0-5.0	--- --- ---	6.1-6.5 6.1-7.3 6.1-7.3	0 0 0	0 0 0	0 0 0	0 0 0
Janile-----	0-4 4-19 19-24 24-34	5.0-10 1.0-5.0 1.0-5.0 ---	--- --- --- ---	6.1-7.3 6.1-7.3 6.1-7.3 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---
Waterman-----	0-7 7-18 18-22	5.0-10 1.0-5.0 ---	--- --- ---	6.1-7.3 6.1-7.3 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
155: Chimney-----	0-13	5.0-10	---	6.1-6.5	0	0	0	0
	13-35	1.0-5.0	---	6.1-7.3	0	0	0	0
	35-60	1.0-5.0	---	6.1-7.3	0	0	0	0
Janile-----	0-4	5.0-10	---	6.1-7.3	0	0	0	0
	4-19	1.0-5.0	---	6.1-7.3	0	0	0	0
	19-24	1.0-5.0	---	6.1-7.3	0	0	0	0
	24-34	---	---	---	---	---	---	---
Waterman-----	0-7	5.0-10	---	5.6-7.3	0	0	0	0
	7-18	1.0-5.0	---	5.6-7.3	0	0	0	0
	18-22	---	---	---	---	---	---	---
156: Chimney-----	0-13	5.0-10	---	6.1-6.5	0	0	0	0
	13-35	1.0-5.0	---	6.1-7.3	0	0	0	0
	35-60	1.0-5.0	---	6.1-7.3	0	0	0	0
Waterman-----	0-7	5.0-10	---	6.1-7.3	0	0	0	0
	7-18	1.0-5.0	---	6.1-7.3	0	0	0	0
	18-22	---	---	---	---	---	---	---
157: Chirpchatter-----	0-11	15-25	---	6.1-7.3	0	0	0	0
	11-52	15-25	---	6.1-7.3	0	0	0	0
	52-65	15-25	---	6.1-7.3	0	0	0	0
158: Cleghorn-----	0-7	10-20	---	6.6-7.8	0	0	0	0
	7-15	20-35	---	6.6-7.8	0	0	0	0
	15-19	20-35	---	6.6-7.8	0	0	0	0
	19-34	15-25	---	7.4-8.4	2-9	0	0.0-4.0	0
	34-60	10-20	---	7.4-8.4	2-9	0	0.0-4.0	0
159: Cleghorn-----	0-7	10-20	---	6.6-7.8	0	0	0	0
	7-15	20-35	---	6.6-7.8	0	0	0	0
	15-19	20-35	---	6.6-7.8	0	0	0	0
	19-34	15-25	---	7.4-8.4	2-9	0	0.0-4.0	0
	34-60	10-20	---	7.4-8.4	2-9	0	0.0-4.0	0
160: Cochran-----	0-11	10-20	---	6.6-7.3	0	0	0	0
	11-31	20-40	---	6.6-7.3	0	0	0	0
	31-60	2.0-10	---	6.6-7.8	0	0	0	0
161: Cochran-----	0-11	10-20	---	6.6-7.3	0	0	0	0
	11-31	20-40	---	6.6-7.3	0	0	0	0
	31-60	2.0-10	---	6.6-7.8	0	0	0	0
162: Corral-----	0-6	10-20	---	6.6-7.3	0	0	0	0
	6-19	20-35	---	6.6-7.8	0	0	0	0
	19-23	---	---	---	---	---	---	---
163: Corral-----	0-6	10-20	---	6.6-7.3	0	0	0	0
	6-19	20-35	---	6.6-7.8	0	0	0	0
	19-23	---	---	---	---	---	---	---
164: Corral-----	0-4	10-20	---	6.6-7.8	0	0	0	0
	4-12	20-35	---	6.6-7.8	0	0	0	0
	12-16	---	---	---	---	---	---	---
165: Corral-----	0-4	10-20	---	6.6-7.8	0	0	0	0
	4-12	20-35	---	6.6-7.8	0	0	0	0
	12-16	---	---	---	---	---	---	---

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
166:								
Corral-----	0-4	10-20	---	6.6-7.3	0	0	0	0
	4-12	20-35	---	6.6-7.8	0	0	0	0
	12-22	---	---	---	---	---	---	---
167:								
Corral-----	0-6	10-20	---	6.6-7.3	0	0	0	0
	6-19	20-35	---	6.6-7.8	0	0	0	0
	19-23	---	---	---	---	---	---	---
Chalco-----	0-4	10-15	---	6.6-7.3	0	0	0.0-2.0	0
	4-15	30-50	---	7.4-8.4	0	0	0.0-2.0	0
	15-19	---	---	---	---	---	---	---
168:								
Corral-----	0-4	10-20	---	6.6-7.8	0	0	0	0
	4-12	20-35	---	6.6-7.8	0	0	0	0
	12-16	---	---	---	---	---	---	---
Glenbrook-----	0-3	1.0-5.0	---	6.1-7.3	0	0	0	0
	3-12	1.0-5.0	---	6.1-7.3	0	0	0	0
	12-16	---	---	---	---	---	---	---
169:								
Devada-----	0-4	20-30	---	6.1-7.8	0	0	0	0
	4-13	30-50	---	6.1-7.8	0	0	0	0
	13-17	---	---	---	---	---	---	---
Bruback-----	0-2	30-45	---	6.6-8.4	0-3	0	0.0-2.0	0
	2-32	30-45	---	6.6-8.4	0-8	0	0.0-2.0	0
	32-42	---	---	---	---	---	---	---
170:								
Devada-----	0-4	20-30	---	6.1-7.8	0	0	0	0
	4-13	30-50	---	6.1-7.8	0	0	0	0
	13-23	---	---	---	---	---	---	---
Bucklake-----	0-8	10-20	---	6.1-7.3	0	0	0	0
	8-12	20-30	---	6.6-7.8	0	0	0	0
	12-24	25-40	---	6.6-7.8	0	0	0	0
	24-34	---	---	---	---	---	---	---
171:								
Devada-----	0-4	20-30	---	6.1-7.8	0	0	0	0
	4-13	30-50	---	6.1-7.8	0	0	0	0
	13-23	---	---	---	---	---	---	---
Fivesprings-----	0-3	10-20	---	6.1-7.3	0	0	0	0
	3-8	12-25	---	6.6-7.8	0	0	0.0-2.0	0
	8-23	20-40	---	6.6-7.8	0	0	0.0-2.0	0
	23-33	---	---	---	---	---	---	---
Rubble land-----	0-60	---	---	---	0	0	0	0
172:								
Devada-----	0-7	20-30	---	6.1-7.8	0	0	0	0
	7-15	30-50	---	6.1-7.8	0	0	0	0
	15-19	---	---	---	---	---	---	---
Gavel-----	0-4	10-20	---	6.1-7.3	0	0	0	0
	4-27	15-25	---	6.1-7.3	0	0	0	0
	27-70	---	---	---	---	---	---	---
173:								
Devada-----	0-7	20-30	---	6.1-7.8	0	0	0	0
	7-15	30-50	---	6.1-7.8	0	0	0	0
	15-19	---	---	---	---	---	---	---
Gavel-----	0-4	10-20	---	6.1-7.3	0	0	0	0
	4-27	15-25	---	6.1-7.3	0	0	0	0
	27-70	---	---	---	---	---	---	---
Whitinger-----	0-6	25-35	---	6.1-7.3	0	0	0	0
	6-15	20-30	---	6.1-7.8	0	0	0	0
	15-26	20-30	---	6.1-7.8	0	0	0	0
	26-36	---	---	---	---	---	---	---

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
174:								
Devada-----	0-4	20-30	---	6.1-7.3	0	0	0	0
	4-13	30-50	---	6.1-7.3	0	0	0	0
	13-23	---	---	---	---	---	---	---
Glean-----	0-3	5.0-15	---	6.1-7.3	0	0	0	0
	3-44	5.0-15	---	6.1-7.3	0	0	0	0
	44-48	---	---	---	---	---	---	---
Sumine-----	0-10	20-30	---	6.6-7.8	0	0	0	0
	10-34	25-40	---	6.6-7.8	0	0	0	0
	34-38	---	---	---	---	---	---	---
175:								
Devada-----	0-4	20-30	---	6.1-7.8	0	0	0	0
	4-13	30-50	---	6.1-7.8	0	0	0	0
	13-23	---	---	---	---	---	---	---
Longcreek-----	0-3	25-30	---	6.6-7.3	0	0	0	0
	3-7	35-45	---	6.6-7.8	0	0	0	0
	7-18	25-35	---	6.6-7.8	0	0	0	0
	18-28	---	---	---	---	---	---	---
176:								
Devada-----	0-7	20-30	---	6.1-7.8	0	0	0	0
	7-15	30-50	---	6.1-7.8	0	0	0	0
	15-19	---	---	---	---	---	---	---
Orhood-----	0-4	15-25	---	6.6-7.3	0	0	0	0
	4-9	15-25	---	6.6-7.3	0	0	0	0
	9-19	25-30	---	6.6-7.3	0	0	0	0
	19-23	---	---	---	---	---	---	---
Hart Camp-----	0-4	10-25	---	6.1-7.3	0	0	0	0
	4-16	15-25	---	6.1-7.3	0	0	0	0
	16-20	---	---	---	---	---	---	---
177:								
Devada-----	0-7	20-30	---	6.1-7.8	0	0	0	0
	7-15	30-50	---	6.1-7.8	0	0	0	0
	15-19	---	---	---	---	---	---	---
Papeek-----	0-3	15-30	---	6.1-7.3	0	0	0	0
	3-24	25-40	---	6.1-7.3	0	0	0	0
	24-33	15-30	---	6.1-7.3	0	0	0	0
	33-43	---	---	---	---	---	---	---
Gavel-----	0-4	10-20	---	6.1-7.3	0	0	0	0
	4-27	15-25	---	6.1-7.3	0	0	0	0
	27-70	---	---	---	---	---	---	---
178:								
Devada-----	0-7	20-30	---	6.1-7.8	0	0	0	0
	7-15	30-50	---	6.1-7.8	0	0	0	0
	15-19	---	---	---	---	---	---	---
Petescreek-----	0-10	25-35	---	6.1-7.3	0	0	0	0
	10-17	25-35	---	6.1-7.3	0	0	0	0
	17-27	25-35	---	6.1-7.3	0	0	0	0
	27-60	---	---	---	---	---	---	---
Fiddler-----	0-8	25-30	---	6.1-7.3	0	0	0	0
	8-14	30-40	---	6.1-7.3	0	0	0	0
	14-23	30-40	---	6.1-7.3	0	0	0	0
	23-28	---	---	---	---	---	---	---
179:								
Devada-----	0-7	20-30	---	6.1-7.8	0	0	0	0
	7-15	32-48	---	6.1-7.8	0	0	0	0
	15-19	---	---	---	---	---	---	---
Rock outcrop-----	0-60	---	---	---	---	---	---	---
180:								
Dotta-----	0-10	15-20	---	6.1-7.3	0	0	0	0
	10-56	20-30	---	6.1-7.3	0	0	0	0
	56-60	20-30	---	6.1-7.3	0	0	0	0
181:								
Dotta-----	0-9	10-25	---	6.1-7.3	0	0	0	0
	9-32	10-20	---	6.1-7.3	0	0	0	0
	32-60	2.0-10	---	6.1-7.3	0	0	0	0

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
182: Dryvalley-----	0-4	30-40	---	6.6-7.8	0	0	0	0-1
	4-20	40-55	---	7.4-8.4	0	0	0.0-2.0	0-2
	20-42	40-50	---	7.4-8.4	1-3	0	2.0-4.0	5-13
	42-60	1.0-10	---	7.4-8.4	1-3	0	0.0-4.0	5-13
183: Dryvalley-----	0-5	20-30	---	6.6-7.8	0	0	0	0
	5-10	30-50	---	7.4-8.4	0	0	0.0-2.0	0
	10-34	30-50	---	7.4-8.4	0	0	0.0-2.0	0
	34-60	20-30	---	7.4-8.4	0	0-1	2.0-8.0	0-5
Playas, silty clay---	0-6	15-40	---	8.5-9.0	5-15	1-5	16.0-32.0	0
	6-60	15-40	---	8.5-9.0	5-15	1-5	16.0-32.0	0
184: Eaglelake-----	0-8	10-25	---	6.1-6.5	0	0	0	0
	8-17	10-25	---	5.6-6.0	0	0	0	0
	17-55	20-40	---	5.6-6.0	0	0	0	0
	55-77	---	---	---	---	---	---	---
185: Eaglelake-----	0-7	10-25	---	6.1-6.5	0	0	0	0
	7-16	10-25	---	5.6-6.0	0	0	0	0
	16-54	20-40	---	5.6-6.0	0	0	0	0
	54-76	---	---	---	---	---	---	---
Outland-----	0-4	40-50	---	6.1-6.5	0	0	0	0
	4-36	20-30	---	6.1-6.5	0	0	0	0
	36-40	---	---	---	---	---	---	---
Weste-----	0-14	20-50	---	6.1-6.5	0	0	0	0
	14-24	20-30	---	6.1-6.5	0	0	0	0
	24-34	---	---	---	---	---	---	---
186: Eaglelake-----	0-7	10-25	---	6.1-6.5	0	0	0	0
	7-16	10-25	---	5.6-6.0	0	0	0	0
	16-54	20-40	---	5.6-6.0	0	0	0	0
	54-76	---	---	---	---	---	---	---
Outland-----	0-4	40-50	---	6.1-6.5	0	0	0	0
	4-36	20-30	---	6.1-6.5	0	0	0	0
	36-40	---	---	---	---	---	---	---
Weste-----	0-14	20-50	---	6.1-6.5	0	0	0	0
	14-24	20-30	---	6.1-6.5	0	0	0	0
	24-34	---	---	---	---	---	---	---
187: Eaglelake-----	0-12	10-25	---	6.1-6.5	0	0	0	0
	12-43	20-40	---	5.6-6.0	0	0	0	0
	43-47	---	---	---	---	---	---	---
Outland-----	0-10	40-50	---	6.1-6.5	0	0	0	0
	10-24	20-30	---	6.1-6.5	0	0	0	0
	24-28	---	---	---	---	---	---	---
Weste-----	0-10	20-50	---	6.1-6.5	0	0	0	0
	10-24	20-30	---	6.1-6.5	0	0	0	0
	24-28	---	---	---	---	---	---	---
188: Eaglelake-----	0-12	10-25	---	6.1-6.5	0	0	0	0
	12-43	20-40	---	5.6-6.0	0	0	0	0
	43-47	---	---	---	---	---	---	---
Outland-----	0-10	40-50	---	6.1-6.5	0	0	0	0
	10-24	20-30	---	6.1-6.5	0	0	0	0
	24-28	---	---	---	---	---	---	---
Weste-----	0-10	20-50	---	6.1-6.5	0	0	0	0
	10-24	20-30	---	6.1-6.5	0	0	0	0
	24-28	---	---	---	---	---	---	---
189: Easte-----	0-13	25-45	---	5.6-6.5	0	0	0	0
	13-58	30-40	---	5.1-6.5	0	0	0	0
	58-62	---	---	---	---	---	---	---
Fredonyer-----	0-4	25-45	---	6.1-7.3	0	0	0	0
	4-12	30-40	---	6.1-7.3	0	0	0	0
	12-28	30-40	---	6.1-7.3	0	0	0	0
	28-38	---	---	---	---	---	---	---

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
190:								
Raste-----	0-13	25-45	---	5.6-6.5	0	0	0	0
	13-42	30-40	---	5.1-6.5	0	0	0	0
	42-62	---	---	---	---	---	---	---
Roop-----	0-5	25-45	---	5.6-6.0	0	0	0	0
	5-13	25-45	---	5.1-6.0	0	0	0	0
	13-27	30-40	---	5.1-6.0	0	0	0	0
	27-36	30-40	---	5.1-6.0	0	0	0	0
	36-46	---	---	---	---	---	---	---
191:								
Raste-----	0-13	25-45	---	5.6-6.5	0	0	0	0
	13-42	30-40	---	5.1-6.5	0	0	0	0
	42-62	---	---	---	---	---	---	---
Roop-----	0-5	25-45	---	5.6-6.0	0	0	0	0
	5-13	25-45	---	5.1-6.0	0	0	0	0
	13-27	30-40	---	5.1-6.0	0	0	0	0
	27-36	30-40	---	5.1-6.0	0	0	0	0
	36-46	---	---	---	---	---	---	---
192:								
Spot-----	0-6	15-20	---	7.9-9.0	10-15	0	2.0-4.0	8-20
	6-13	15-25	---	8.5-9.0	10-15	0	2.0-4.0	8-20
	13-21	15-25	---	8.5-9.0	10-15	0	4.0-8.0	40-50
	21-35	25-40	---	8.5-9.0	10-15	0	8.0-32.0	80-120
	35-42	20-35	---	8.5-9.0	10-15	0	16.0-32.0	60-80
	42-48	20-35	---	8.5-9.0	10-15	0	16.0-32.0	60-80
	48-63	5.0-10	---	8.5-9.0	1-10	0-1	16.0-32.0	20-50
Playas, silty clay---	0-6	15-40	---	8.5-9.0	5-15	1-5	16.0-32.0	0
	6-60	15-40	---	8.5-9.0	5-15	1-5	16.0-32.0	0
193:								
Spot-----	0-6	15-20	---	7.9-9.0	10-15	0	2.0-4.0	8-20
	6-13	15-25	---	8.5-9.0	10-15	0	2.0-4.0	8-20
	13-21	15-25	---	8.5-9.0	10-15	0	4.0-8.0	40-50
	21-35	25-40	---	8.5-9.0	10-15	0	8.0-32.0	80-120
	35-42	20-35	---	8.5-9.0	10-15	0	16.0-32.0	60-80
	42-48	20-35	---	8.5-9.0	10-15	0	16.0-32.0	60-80
	48-63	5.0-10	---	8.5-9.0	1-10	0-1	16.0-32.0	20-50
Ragtown-----	0-4	15-20	---	7.9-9.0	1-10	0	2.0-4.0	1-5
	4-60	20-30	---	7.9-9.0	1-10	0-2	2.0-4.0	1-12
Playas, silty clay---	0-6	15-40	---	8.5-9.0	5-15	1-5	16.0-32.0	0
	6-60	15-40	---	8.5-9.0	5-15	1-5	16.0-32.0	0
194:								
Fiddler-----	0-8	25-30	---	6.1-7.3	0	0	0	0
	8-14	30-40	---	6.1-7.3	0	0	0	0
	14-23	30-40	---	6.1-7.3	0	0	0	0
	23-28	---	---	---	---	---	---	---
Gavel-----	0-4	10-20	---	6.1-7.3	0	0	0	0
	4-27	15-25	---	6.1-7.3	0	0	0	0
	27-70	---	---	---	---	---	---	---
Rubble land-----	0-60	---	---	---	0	0	0	0
195:								
Fiddler-----	0-8	25-30	---	6.1-7.3	0	0	0	0
	8-14	30-40	---	6.1-7.3	0	0	0	0
	14-23	30-40	---	6.1-7.3	0	0	0	0
	23-28	---	---	---	---	---	---	---
Gavel-----	0-4	10-20	---	6.1-7.3	0	0	0	0
	4-27	15-25	---	6.1-7.3	0	0	0	0
	27-70	---	---	---	---	---	---	---
Rubble land-----	0-60	---	---	---	0	0	0	0
196:								
Fiddler-----	0-8	25-30	---	6.1-7.3	0	0	0	0
	8-14	30-40	---	6.1-7.3	0	0	0	0
	14-23	30-40	---	6.1-7.3	0	0	0	0
	23-28	---	---	---	---	---	---	---
Madeline-----	0-5	15-25	---	6.1-7.3	0	0	0	0
	5-9	20-40	---	6.6-7.8	0	0	0	0
	9-16	20-40	---	6.6-7.8	0	0	0	0
	16-20	---	---	---	---	---	---	---

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
197:								
Fiddler-----	0-8	25-30	---	6.1-7.3	0	0	0	0
	8-14	30-40	---	6.1-7.3	0	0	0	0
	14-23	30-40	---	6.1-7.3	0	0	0	0
	23-28	---	---	---	---	---	---	---
Orhood-----	0-4	15-25	---	6.6-7.3	0	0	0	0
	4-9	15-25	---	6.6-7.3	0	0	0	0
	9-19	25-30	---	6.6-7.3	0	0	0	0
	19-23	---	---	---	---	---	---	---
Petescreek-----	0-10	25-35	---	6.1-7.3	0	0	0	0
	10-17	25-35	---	6.1-7.3	0	0	0	0
	17-27	25-35	---	6.1-7.3	0	0	0	0
	27-60	---	---	---	---	---	---	---
198:								
Fivesprings-----	0-3	10-20	---	6.1-7.3	0	0	0	0
	3-8	12-25	---	6.6-7.8	0	0	0.0-2.0	0
	8-23	20-40	---	6.6-7.8	0	0	0.0-2.0	0
	23-33	---	---	---	---	---	---	---
Longcreek-----	0-3	15-20	---	6.6-7.3	0	0	0	0
	3-7	35-45	---	6.6-7.8	0	0	0	0
	7-18	25-35	---	6.6-7.8	0	0	0	0
	18-28	---	---	---	---	---	---	---
199:								
Fivesprings-----	0-3	10-20	---	6.1-7.3	0	0	0	0
	3-8	12-25	---	6.6-7.8	0	0	0.0-2.0	0
	8-23	20-40	---	6.6-7.8	0	0	0.0-2.0	0
	23-33	---	---	---	---	---	---	---
Longcreek-----	0-3	15-20	---	6.6-7.3	0	0	0	0
	3-7	35-45	---	6.6-7.8	0	0	0	0
	7-18	25-35	---	6.6-7.8	0	0	0	0
	18-28	---	---	---	---	---	---	---
200:								
Fivesprings-----	0-3	10-20	---	6.1-7.3	0	0	0	0
	3-8	12-25	---	6.6-7.8	0	0	0.0-2.0	0
	8-23	20-40	---	6.6-7.8	0	0	0.0-2.0	0
	23-33	---	---	---	---	---	---	---
Longcreek-----	0-3	15-20	---	6.6-7.3	0	0	0	0
	3-7	35-45	---	6.6-7.8	0	0	0	0
	7-18	25-35	---	6.6-7.8	0	0	0	0
	18-28	---	---	---	---	---	---	---
Rubble land-----	0-60	---	---	---	0	0	0	0
201:								
Fivesprings-----	0-3	10-20	---	6.1-7.3	0	0	0	0
	3-8	12-25	---	6.6-7.8	0	0	0.0-2.0	0
	8-23	20-40	---	6.6-7.8	0	0	0.0-2.0	0
	23-33	---	---	---	---	---	---	---
Rubble land-----	0-60	---	---	---	0	0	0	0
Devada-----	0-4	20-30	---	6.1-7.8	0	0	0	0
	4-13	32-48	---	6.1-7.8	0	0	0	0
	13-23	---	---	---	---	---	---	---
202:								
Fivesprings-----	0-3	10-20	---	6.1-7.3	0	0	0	0
	3-8	12-25	---	6.6-7.8	0	0	0.0-2.0	0
	8-23	20-40	---	6.6-7.8	0	0	0.0-2.0	0
	23-33	---	---	---	---	---	---	---
Sumine-----	0-10	20-30	---	6.6-7.8	0	0	0	0
	10-34	25-40	---	6.6-7.8	0	0	0	0
	34-38	---	---	---	---	---	---	---
203:								
Fluvents-----	0-4	3.0-12	---	7.4-8.4	0	0	0	0
	4-60	3.0-12	---	7.4-8.4	0-1	0	0	0
Riverwash-----	0-6	3.0-12	---	7.4-8.4	0	0	0	0
	6-60	3.0-12	---	7.4-8.4	0-1	0	0	0
204:								
Fordney-----	0-10	5.0-10	---	6.6-7.3	0	0	0	0
	10-60	5.0-10	---	6.6-7.8	0	0	0	0

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
205: Fordney-----	0-10 10-62	5.0-10 5.0-10	--- ---	6.6-7.3 6.6-7.8	0 0	0 0	0 0	0 0
206: Fordney-----	0-12 12-62	5.0-10 5.0-10	--- ---	6.6-7.3 6.6-7.8	0 0	0 0	0 0	0 0
207: Forgay-----	0-11 11-40 40-60	5.0-10 1.0-8.0 1.0-8.0	--- --- ---	6.1-6.5 6.1-7.3 6.1-7.3	0 0 0	0 0 0	0 0 0	0 0 0
208: Forgay-----	0-11 11-40 40-60	5.0-10 1.0-8.0 1.0-8.0	--- --- ---	6.1-6.6 6.6-7.3 6.6-7.3	0 0 0	0 0 0	0 0 0	0 0 0
209: Fortsage-----	0-10 10-60	5.0-10 5.0-10	--- ---	6.6-8.4 7.9-8.4	0 0	0 0	0.0-2.0 0.0-2.0	0 0
210: Fortsage-----	0-2 2-60	5.0-10 5.0-10	--- ---	6.6-8.4 7.9-8.4	0 0	0 0	0.0-2.0 0.0-2.0	0 0
211: Fraval-----	0-14 14-34 34-40	20-30 30-50 ---	--- --- ---	6.1-6.5 6.1-6.5 ---	--- --- ---	--- --- ---	0 0 ---	0 0 ---
Fredonyer-----	0-4 4-12 12-28 28-38	25-45 30-40 30-40 ---	--- --- --- ---	6.1-7.3 6.1-7.3 6.1-7.3 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---
Said-----	0-13 13-26 26-37 37-56 56-66	30-45 20-30 20-35 20-35 ---	--- --- --- --- ---	5.6-6.5 5.6-6.5 5.1-6.5 5.1-6.5 ---	0 0 0 0 ---	0 0 0 0 ---	0 0 0 0 ---	0 0 0 0 ---
212: Fraval-----	0-14 14-34 34-40	20-30 30-50 ---	--- --- ---	6.1-6.5 6.1-6.5 ---	--- --- ---	--- --- ---	0 0 ---	0 0 ---
Said-----	0-13 13-27 27-38 38-57 57-67	30-45 20-30 20-35 20-35 ---	--- --- --- --- ---	5.6-6.5 5.6-6.5 5.1-6.5 5.1-6.5 ---	0 0 0 0 ---	0 0 0 0 ---	0 0 0 0 ---	0 0 0 0 ---
213: Fredonyer-----	0-4 4-12 12-28 28-32	25-45 30-40 30-40 ---	--- --- --- ---	6.1-7.3 6.1-7.3 6.1-7.3 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---
Whitinger-----	0-6 6-15 15-26 26-36	25-35 20-30 20-30 ---	--- --- --- ---	6.1-7.3 6.1-7.8 6.1-7.8 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---
Orhood-----	0-4 4-9 9-19 19-23	15-25 15-25 25-30 ---	--- --- --- ---	6.6-7.3 6.6-7.3 6.6-7.3 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---
214: Fulstone-----	0-2 2-14 14-60	20-25 35-60 ---	--- --- ---	6.1-7.3 6.6-7.8 ---	0 0 ---	0 0 ---	0 0.0-2.0 ---	0 0-2 ---
Wylo-----	0-7 7-11 11-15 15-19	15-30 25-45 25-45 ---	--- --- --- ---	6.6-7.8 6.6-7.8 6.6-7.8 ---	0 0 0 ---	0 0 0 ---	0.0-2.0 0.0-2.0 0.0-2.0 ---	0 0 0 ---

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
215: Galeppi-----	0-18	5.0-15	---	6.6-7.3	0	0	0	0
	18-36	10-20	---	6.6-7.8	0	0	0.0-2.0	0
	36-52	5.0-15	---	6.6-7.8	0	0	0.0-2.0	0
	52-60	5.0-10	---	6.6-7.8	0	0	0.0-2.0	0
216: Galeppi-----	0-18	5.0-15	---	6.1-7.3	0	0	0	0
	18-36	10-20	---	6.6-7.8	0	0	0.0-2.0	0
	36-52	5.0-15	---	6.6-7.8	0	0	0.0-2.0	0
	52-60	5.0-10	---	6.6-7.8	0	0	0.0-2.0	0
217: Galeppi-----	0-18	5.0-10	---	6.6-7.3	0	0	0	0
	18-36	10-20	---	6.6-7.8	0	0	0.0-2.0	0
	36-52	5.0-15	---	6.6-7.8	0	0	0.0-2.0	0
	52-60	5.0-10	---	6.6-7.8	0	0	0.0-2.0	0
Glenbrook-----	0-3	1.0-5.0	---	6.1-7.3	0	0	0	0
	3-12	1.0-5.0	---	6.1-7.3	0	0	0	0
	12-16	---	---	---	---	---	---	---
218: Gavel-----	0-4	10-20	---	6.1-7.3	0	0	0	0
	4-26	15-25	---	6.1-7.3	0	0	0	0
	26-70	---	---	---	---	---	---	---
219: Gavel-----	0-12	10-20	---	6.1-7.3	0	0	0	0
	12-27	15-25	---	6.1-7.3	0	0	0	0
	27-37	---	---	---	---	---	---	---
Devada-----	0-7	20-30	---	6.1-7.8	0	0	0	0
	7-15	32-48	---	6.1-7.8	0	0	0	0
	15-19	---	---	---	---	---	---	---
220: Gerlach-----	0-3	45-55	---	6.6-7.3	0	0	0	0
	3-52	45-55	---	6.6-8.4	0	0	0	0
	52-60	45-55	---	6.6-8.4	0-3	0-1	0.0-2.0	0
221: Gerlach-----	0-3	45-55	---	6.6-7.3	0	0	0	0
	3-52	45-55	---	6.6-8.4	0	0	0	0
	52-60	45-55	---	6.6-8.4	0-3	0-1	0.0-2.0	0
222: Gerlach-----	0-3	45-55	---	6.6-7.3	0	0	0	0
	3-52	45-55	---	6.6-8.4	0	0	0	0
	52-60	45-55	---	6.6-8.4	0-3	0-1	0.0-2.0	0
Ravendale-----	0-16	45-55	---	6.6-7.8	0	0	0	0
	16-48	45-55	---	7.4-8.4	0	0	0	0
	48-60	45-55	---	7.4-8.4	0-2	0	0.0-4.0	0
223: Gerle-----	0-13	5.0-15	---	6.1-6.5	0	0	0	0
	13-72	5.0-10	---	5.6-6.5	0	0	0	0
224: Gerle-----	0-18	5.0-15	---	6.1-6.5	0	0	0	0
	18-46	5.0-10	---	5.6-6.5	0	0	0	0
	46-60	2.0-8.0	---	5.6-6.5	0	0	0	0
225: Gerle-----	0-13	1.0-5.0	---	6.1-6.5	0	0	0	0
	13-46	1.0-5.0	---	5.6-6.5	0	0	0	0
	46-60	1.0-5.0	---	5.6-6.5	0	0	0	0
Gerle-----	0-13	5.0-15	---	6.1-6.5	0	0	0	0
	13-46	5.0-10	---	5.6-6.5	0	0	0	0
	46-60	2.0-8.0	---	5.6-6.5	0	0	0	0
Gerle-----	0-13	5.0-15	---	6.1-6.5	0	0	0	0
	13-46	5.0-10	---	5.6-6.5	0	0	0	0
	46-60	2.0-8.0	---	5.6-6.5	0	0	0	0
226: Glean-----	0-14	5.0-15	---	6.1-7.3	0	0	0	0
	14-44	5.0-15	---	6.1-7.3	0	0	0	0
	44-48	---	---	---	---	---	---	---

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
227: Glean-----	0-14 14-44 44-48	5.0-15 5.0-15 ---	--- --- ---	6.1-7.3 6.1-7.3 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
228: Glean-----	0-14 14-44 44-48	5.0-15 5.0-15 ---	--- --- ---	6.1-7.3 6.1-7.3 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
Searles-----	0-13 13-29 29-33	10-15 15-20 ---	--- --- ---	6.1-7.3 6.6-7.3 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
229: Glenbrook-----	0-3 3-12 12-16	1.0-5.0 1.0-5.0 ---	--- --- ---	6.1-7.3 6.1-7.3 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
Graufels-----	0-14 14-22 22-26	3.0-10 3.0-10 ---	--- --- ---	6.1-7.3 6.1-7.3 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
Rock outcrop-----	0-60	---	---	---	---	---	---	---
230: Graufels-----	0-14 14-22 22-26	3.0-10 3.0-10 ---	--- --- ---	6.1-7.3 6.1-7.3 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
Glenbrook-----	0-3 3-12 12-16	1.0-5.0 1.0-5.0 ---	--- --- ---	6.1-7.3 6.1-7.3 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
231: Hagata-----	0-6 6-22 22-36 36-60	5.0-15 25-35 --- 5.0-10	--- --- --- ---	6.6-7.3 7.4-8.4 --- 7.4-7.8	0 0 --- 0	0 0 --- 0	0 0.0-2.0 0 0.0-2.0	0 0 --- 0
Playas-----	0-6 6-60	15-40 15-40	--- ---	8.5-9.0 8.5-9.0	5-15 5-15	1-5 1-5	16.0-32.0 16.0-32.0	0 0
232: Hangtown-----	0-9 9-58 58-62	5.0-15 5.0-10 ---	--- --- ---	5.6-6.5 5.6-6.5 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
233: Hart Camp-----	0-4 4-16 16-20	10-25 15-25 ---	--- --- ---	6.1-7.3 6.1-7.3 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
Devada-----	0-4 4-13 13-17	20-30 30-50 ---	--- --- ---	6.1-7.8 6.1-7.8 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
Tunnison-----	0-1 1-31 31-38 38-48	50-60 50-60 --- ---	--- --- --- ---	7.4-7.8 7.4-7.8 --- ---	0 0 --- ---	0 0 --- ---	0 0 --- ---	0 0 --- ---
234: Hart Camp-----	0-4 4-16 16-20	10-25 20-40 ---	--- --- ---	6.1-7.3 6.1-7.3 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
Madeline-----	0-5 5-9 9-16 16-20	15-25 20-40 20-40 ---	--- --- --- ---	6.1-7.3 6.6-7.8 6.6-7.8 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---
235: Haypress-----	0-16 16-42 42-46	5.0-10 5.0-10 ---	--- --- ---	6.1-6.5 6.1-6.5 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
Tanob-----	0-10 10-26 26-30	5.0-15 5.0-15 ---	--- --- ---	6.1-6.5 6.1-6.5 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
236: Herjun-----	0-18	5.0-10	---	7.9-9.0	1-3	0	0.0-4.0	3-20
	18-40	5.0-10	---	7.9-9.0	1-3	0	8.0-16.0	100-200
	40-53	5.0-10	---	8.5-9.0	1-2	0	8.0-16.0	100-200
	53-60	5.0-10	---	8.5-9.0	0-1	0	4.0-16.0	30-60
237: Herjun-----	0-10	5.0-10	---	7.9-9.0	1-3	0	0.0-4.0	3-20
	10-32	5.0-10	---	7.9-9.0	1-3	0	8.0-16.0	100-200
	32-60	5.0-10	---	8.5-9.0	0-1	0	4.0-16.0	30-60
238: Highrock, loamy fine sand-----	0-5	10-15	---	7.9-8.4	1-5	0	1.0-4.0	5-8
	5-10	25-35	---	7.9-9.0	1-5	0	2.0-4.0	40-80
	10-14	25-35	---	7.9-9.0	1-5	0	2.0-4.0	40-80
	14-30	20-30	---	8.5-9.0	1-5	0	8.0-32.0	40-270
	30-60	30-40	---	8.5-9.0	1-5	0-1	16.0-32.0	80-250
Mazuma-----	0-5	2.0-6.0	---	7.9-8.4	1-5	0	0.0-4.0	1-5
	5-60	3.0-9.0	---	7.9-8.4	1-10	0	4.0-8.0	13-45
Wespac-----	0-3	5.0-15	---	7.4-8.4	0-1	0	0.0-4.0	0-13
	3-45	25-35	---	7.9-9.0	1-5	0	4.0-8.0	13-60
	45-60	1.0-5.0	---	7.9-8.4	1-2	0-1	0.0-8.0	1-30
239: Highrock, loamy fine sand-----	0-5	10-15	---	7.9-8.4	1-5	0	1.0-4.0	5-8
	5-8	25-35	---	7.9-9.0	1-5	0	2.0-4.0	32-80
	8-12	25-35	---	7.9-9.0	1-5	0	2.0-4.0	40-80
	12-27	20-30	---	8.5-9.0	1-5	0	8.0-30.0	40-270
	27-60	30-40	---	8.5-9.0	1-5	0-1	16.0-32.0	80-250
Wespac, fine sandy loam-----	0-10	5.0-15	---	7.4-8.4	0	0	0.0-4.0	0-13
	10-19	25-35	---	7.9-9.0	1-3	0	4.0-8.0	13-60
	19-60	10-20	---	7.9-8.4	1-5	0-1	8.0-16.0	60-100
Zorravista, loamy sand-----	0-4	0.0-5.0	---	7.9-8.4	1-5	0	0.0-4.0	0
	4-60	0.0-3.0	---	7.4-9.0	0-5	0	0.0-4.0	0
240: Home Camp-----	0-3	10-20	---	6.1-7.3	0	0	0	0
	3-9	10-20	---	6.1-7.3	0	0	0	0
	9-17	17-25	---	6.1-7.3	0	0	0	0
	17-28	25-32	---	6.1-7.3	0	0	0	0
	28-32	---	---	---	---	---	---	---
Newlands-----	0-8	10-20	---	6.1-7.3	0	0	0	0
	8-43	10-25	---	6.1-7.3	0	0	0	0
	43-45	---	---	---	---	---	---	---
241: Honlak-----	0-4	10-20	---	7.9-9.0	1-3	0	2.0-4.0	13-30
	4-20	20-30	---	7.9-9.0	1-4	0	4.0-16.0	50-200
	20-28	15-25	---	7.9-9.0	1-5	0	8.0-16.0	50-100
	28-35	10-20	---	7.9-9.0	1-2	0-1	4.0-8.0	30-50
	35-46	10-20	---	7.9-9.0	1-2	0-1	4.0-8.0	30-50
	46-60	5.0-15	---	7.9-8.4	0-1	0-1	16.0-32.0	30-50
242: Horsecamp-----	0-2	45-55	---	6.6-8.4	0	0	0	0
	2-27	45-55	---	6.6-8.4	0-8	0	0	0
	27-46	45-55	---	7.4-8.4	3-8	0-1	0.0-2.0	0
	46-50	---	---	---	---	---	---	---
243: Horsecamp-----	0-2	45-55	---	6.6-8.4	0	0	0	0
	2-27	45-55	---	6.6-8.4	0-8	0	0	0
	27-46	45-55	---	7.4-8.4	3-8	0-1	0.0-2.0	0
	46-50	---	---	---	---	---	---	---

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
Brubeck-----	0-2	30-45	---	6.6-8.4	0-3	0	0.0-2.0	0
	2-32	30-45	---	6.6-8.4	0-8	0	0.0-2.0	0
	32-42	---	---	---	---	---	---	---
244: Horsecamp-----	0-2	45-55	---	6.6-8.4	0	0	0	0
	2-46	45-55	---	6.6-8.4	0-8	0	0	0
	46-50	---	---	---	---	---	---	---
Hunnton-----	0-5	15-25	---	6.6-7.3	0	0	0	0
	5-22	35-55	---	6.6-7.8	0-5	0	0.0-4.0	0
	22-60	---	---	---	---	---	---	---
245: Horsecamp, cobbly clay-----	0-2	45-55	---	6.6-8.4	0	0	0	0
	2-27	45-55	---	6.6-8.4	0-8	0	0	0
	27-46	45-55	---	7.4-8.4	3-8	0-1	0.0-2.0	0
	46-50	---	---	---	---	---	---	---
Mahala-----	0-3	14-19	---	6.6-7.3	0	0	0.0-2.0	0
	3-16	36-49	---	6.6-8.4	0	0	0.0-2.0	0
	16-36	28-48	---	7.4-8.4	1-2	0	0.0-2.0	0
	36-46	---	---	---	---	---	---	---
246: Humboldt-----	0-21	45-60	---	7.9-8.4	0	0	0.0-4.0	0
	21-60	30-40	---	7.9-8.4	0	0	0.0-4.0	0
247: Humboldt-----	0-21	45-60	---	7.9-8.4	1-3	0	0.0-4.0	0
	21-60	30-40	---	7.9-8.4	1-5	0	0.0-4.0	0
248: Humboldt-----	0-21	45-60	---	7.9-8.4	1-3	0	0.0-4.0	0
	21-60	30-40	---	7.9-8.4	1-5	0	0.0-4.0	0
249: Humboldt-----	0-21	15-40	---	8.5-9.0	1-10	0	4.0-32.0	13-45
	21-60	20-35	---	7.9-9.0	1-10	0	2.0-32.0	13-30
250: Hunnton-----	0-2	10-20	---	6.6-7.3	0	0	0	0-5
	2-5	10-20	---	6.6-7.8	0	0	0	0-5
	5-22	35-55	---	6.6-7.8	0-5	0	0.0-4.0	1-5
	22-60	---	---	---	---	---	---	---
Shinnpeak-----	0-2	10-20	---	6.6-7.3	0	0	0	0
	2-13	20-30	---	6.6-7.3	0	0	0	0
	13-22	---	---	---	---	---	---	---
	22-60	---	---	---	---	---	---	---
251: Incy-----	0-9	1.0-5.0	---	6.6-7.3	0	0	0	0
	9-60	1.0-5.0	---	6.6-7.8	0	0	0	0
252: Incy-----	0-9	1.0-5.0	---	6.6-7.3	0	0	0	0
	9-60	1.0-5.0	---	6.6-7.8	0	0	0	0
253: Indiano-----	0-8	10-20	---	6.1-7.3	0	0	0	0
	8-38	15-30	---	6.1-7.3	0	0	0	0
	38-42	---	---	---	---	---	---	---
Graufels-----	0-14	5.0-15	---	6.1-7.3	0	0	0	0
	14-22	3.0-10	---	6.1-7.3	0	0	0	0
	22-26	---	---	---	---	---	---	---
254: Indiano-----	0-3	11-16	---	6.1-7.3	0	0	0	0
	3-7	11-19	---	6.1-7.3	0	0	0	0
	7-11	11-19	---	6.1-7.3	0	0	0	0
	11-18	19-23	---	6.1-7.3	0	0	0	0
	18-27	19-23	---	6.1-7.3	0	0	0	0
	27-31	---	---	---	---	---	---	---
Searles-----	0-13	10-15	---	6.1-7.3	0	0	0	0
	13-29	15-20	---	6.6-7.3	0	0	0	0
	29-33	---	---	---	---	---	---	---

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
255: Indiano-----	0-3	11-16	---	6.1-7.3	0	0	0	0
	3-7	11-19	---	6.1-7.3	0	0	0	0
	7-27	19-23	---	6.1-7.3	0	0	0	0
	27-31	---	---	---	---	---	---	---
Searles-----	0-13	10-15	---	6.1-7.3	0	0	0	0
	13-29	15-20	---	6.6-7.3	0	0	0	0
	29-33	---	---	---	---	---	---	---
256: Indiano-----	0-7	15-30	---	6.1-7.3	0	0	0	0
	7-27	15-30	---	6.1-7.3	0	0	0	0
	27-31	---	---	---	---	---	---	---
Zephan-----	0-4	10-15	---	6.6-7.3	0	0	0	0
	4-26	30-40	---	6.6-7.3	0	0	0	0
	26-42	---	---	---	---	---	---	---
	42-46	---	---	---	---	---	---	---
Duco-----	0-10	10-20	---	6.1-7.3	0	0	0	0
	10-19	20-30	---	6.1-7.3	0	0	0	0
	19-23	---	---	---	---	---	---	---
257: Inville-----	0-10	10-15	---	6.1-6.5	0	0	0	0
	10-21	15-25	---	6.1-6.5	0	0	0	0
	21-30	5.0-10	---	6.1-6.5	0	0	0	0
	30-60	5.0-10	---	6.1-6.5	0	0	0	0
258: Jauriga-----	0-9	25-35	---	6.1-7.3	0	0	0	0
	9-37	20-30	---	6.1-7.3	0	0	0	0
	37-49	20-30	---	6.1-7.3	0	0	0	0
	49-59	---	---	---	---	---	---	---
259: Jauriga-----	0-9	25-35	---	6.1-7.3	0	0	0	0
	9-37	20-30	---	6.1-7.3	0	0	0	0
	37-49	20-30	---	6.1-7.3	0	0	0	0
	49-59	---	---	---	---	---	---	---
Buckbay-----	0-12	15-25	---	6.1-7.3	0	0	0	0
	12-22	15-25	---	6.1-7.3	0	0	0	0
	22-29	15-25	---	6.1-7.3	0	0	0	0
	29-39	---	---	---	---	---	---	---
Fredonyer-----	0-4	25-45	---	6.1-7.3	0	0	0	0
	4-12	30-40	---	6.1-7.3	0	0	0	0
	12-28	30-40	---	6.1-7.3	0	0	0	0
	28-38	---	---	---	---	---	---	---
260: Keddie-----	0-34	10-20	---	6.1-7.3	0	0	0	0
	34-50	10-15	---	6.6-7.3	0	0	0	0
	50-60	5.0-15	---	6.6-7.3	0	0	0	0
261: Keddie-----	0-8	10-25	---	6.1-7.3	0	0	0	0
	8-42	10-15	---	6.6-7.3	0	0	0	0
	42-60	20-40	---	6.6-7.3	0	0	0	0
262: Ladd-----	0-8	5.0-15	---	6.1-7.3	0	0	0	0
	8-39	10-20	---	6.1-7.3	0	0	0	0
	39-72	0.0-5.0	---	6.1-7.3	0	0	0	0
263: Ladd-----	0-8	5.0-15	---	6.1-7.3	0	0	0	0
	8-39	10-20	---	6.1-7.3	0	0	0	0
	39-72	0.0-5.0	---	6.1-7.3	0	0	0	0
Bieber-----	0-6	10-20	---	6.1-7.3	0	0	0	0
	6-11	30-50	---	6.6-7.3	0	0	0.0-2.0	0
	11-18	30-50	---	6.6-7.3	0	0	0.0-2.0	0
	18-60	---	---	---	---	---	---	---
264: Lakeview-----	0-18	15-30	---	6.1-7.8	0	0	0	0
	18-60	10-20	---	6.6-7.8	0	0	0	0
265: Lakeview-----	0-18	15-30	---	6.6-7.8	0	0	0	0
	18-60	10-20	---	7.4-8.4	0	0	0	0

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
266: Lasco-----	0-9	5.0-15	---	6.1-6.5	0	0	0	0
	9-49	2.0-12	---	6.1-6.5	0	0	0	0
	49-59	---	---	---	---	---	---	---
267: Lasco-----	0-9	5.0-15	---	6.1-6.5	0	0	0	0
	9-49	2.0-12	---	6.1-6.5	0	0	0	0
	49-59	---	---	---	---	---	---	---
268: Lasco-----	0-9	5.0-15	---	6.1-6.5	0	0	0	0
	9-49	2.0-12	---	6.1-6.5	0	0	0	0
	49-59	---	---	---	---	---	---	---
269: Lasco-----	0-9	5.0-15	---	6.1-6.5	0	0	0	0
	9-49	2.0-12	---	6.1-6.5	0	0	0	0
	49-59	---	---	---	---	---	---	---
Bonta-----	0-12	0.0-10	---	6.1-7.3	0	0	0	0
	12-36	5.0-15	---	6.1-6.5	0	0	0	0
	36-40	---	---	---	---	---	---	---
270: Lieberman-----	0-12	3.0-8.0	---	7.9-9.0	3-8	0	0.0-4.0	1-4
	12-20	10-25	---	7.9-9.0	15-25	0-1	0.0-8.0	5-15
	20-60	1.0-5.0	---	7.9-9.0	7-11	0-1	4.0-16.0	30-200
271: Lieberman-----	0-12	3.0-8.0	---	7.9-9.0	3-8	0	0.0-4.0	1-4
	12-20	10-25	---	7.9-9.0	15-25	0-1	0.0-8.0	5-15
	20-60	1.0-5.0	---	7.9-9.0	7-11	0-1	4.0-16.0	30-200
Herlong-----	0-3	15-20	---	7.9-9.0	5-15	0	1.0-4.0	13-30
	3-9	15-25	---	7.9-9.0	10-18	0	1.0-4.0	13-30
	9-12	---	---	---	---	---	---	---
	12-68	10-30	---	7.9-10.5	5-13	0-1	2.0-20.0	30-200
	68-72	---	---	---	---	---	---	---
272: Lodico-----	0-3	10-30	---	6.6-7.3	0	0	0	0
	3-23	30-50	---	6.6-7.8	0	0	0	0
	23-33	---	---	---	---	---	---	---
273: Longcreek-----	0-3	15-20	---	6.6-7.3	0	0	0	0
	3-7	35-45	---	6.6-7.8	0	0	0	0
	7-18	25-35	---	6.6-7.8	0	0	0	0
	18-28	---	---	---	---	---	---	---
Devada-----	0-4	20-30	---	6.1-7.8	0	0	0	0
	4-13	32-48	---	6.1-7.8	0	0	0	0
	13-23	---	---	---	---	---	---	---
Rubble land-----	0-60	---	---	---	0	0	0	0
274: Longcreek-----	0-3	15-20	---	6.6-7.3	0	0	0	0
	3-7	35-45	---	6.6-7.8	0	0	0	0
	7-18	25-35	---	6.6-7.8	0	0	0	0
	18-28	---	---	---	---	---	---	---
Devada-----	0-4	20-30	---	6.1-7.8	0	0	0	0
	4-13	32-48	---	6.1-7.8	0	0	0	0
	13-23	---	---	---	---	---	---	---
Rubble land-----	0-60	---	---	---	0	0	0	0
275: Loomis-----	0-2	15-20	---	6.6-7.8	0	0	0	0
	2-6	20-25	---	6.6-7.8	0	0	0	0
	6-11	25-35	---	6.6-7.8	0	0	0	0
	11-15	---	---	---	---	---	---	---

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
276: Loomis-----	0-2	15-20	---	6.6-7.8	0	0	0	0
	2-6	20-25	---	6.6-7.8	0	0	0	0
	6-11	25-35	---	6.6-7.8	0	0	0	0
	11-15	---	---	---	---	---	---	---
Fivesprings-----	0-3	10-20	---	6.1-7.3	0	0	0	0
	3-8	12-25	---	6.6-7.8	0	0	0.0-2.0	0
	8-23	20-40	---	6.6-7.8	0	0	0.0-2.0	0
	23-33	---	---	---	---	---	---	---
277: Loomis-----	0-2	15-20	---	6.6-7.8	0	0	0	0
	2-6	20-25	---	6.6-7.8	0	0	0	0
	6-11	25-35	---	6.6-7.8	0	0	0	0
	11-15	---	---	---	---	---	---	---
Rubble land-----	0-60	---	---	---	0	0	0	0
278: Madeline-----	0-5	15-25	---	6.1-7.3	0	0	0	0
	5-9	20-40	---	6.6-7.8	0	0	0	0
	9-16	20-40	---	6.6-7.8	0	0	0	0
	16-20	---	---	---	---	---	---	---
Glean-----	0-3	5.0-15	---	6.1-7.3	0	0	0	0
	3-44	5.0-15	---	6.1-7.3	0	0	0	0
	44-48	---	---	---	---	---	---	---
Devada-----	0-7	20-30	---	6.1-7.8	0	0	0	0
	7-15	32-48	---	6.1-7.8	0	0	0	0
	15-19	---	---	---	---	---	---	---
279: Madeline-----	0-5	15-25	---	6.1-7.3	0	0	0	0
	5-9	20-40	---	6.6-7.3	0	0	0	0
	9-16	20-40	---	6.6-7.8	0	0	0	0
	16-20	---	---	---	---	---	---	---
Sumine-----	0-5	10-20	---	6.6-7.8	0	0	0	0
	5-11	15-30	---	6.6-7.8	0	0	0	0
	11-24	15-30	---	6.6-7.8	0	0	0	0
	24-28	---	---	---	---	---	---	---
280: Massack-----	0-33	15-25	---	6.6-7.3	0	0	0	0
	33-60	15-20	---	6.1-7.3	0	0	0	0
281: Mazuma-----	0-5	2.0-6.0	---	7.9-8.4	1-5	0	0.0-4.0	1-5
	5-60	3.0-9.0	---	7.9-8.4	1-10	0	4.0-8.0	13-45
282: Mazuma-----	0-7	3.0-9.0	---	7.9-9.0	1-5	0	8.0-32.0	13-45
	7-30	3.0-9.0	---	8.5-9.6	5-10	0-1	8.0-32.0	13-30
	30-60	3.0-9.0	---	8.5-9.6	5-10	0-1	8.0-32.0	13-30
283: McConnel-----	0-10	5.0-15	---	7.4-8.4	0-2	0	0.0-2.0	0-5
	10-60	1.0-5.0	---	7.4-8.4	2-4	0	2.0-32.0	1-12
Mottsville-----	0-17	5.0-20	---	6.1-7.3	0	0	0	0
	17-60	5.0-15	---	6.6-7.3	0	0	0	0
284: McDermott-----	0-13	35-45	---	8.5-9.0	1-5	0	0.0-4.0	1-11
	13-19	30-40	---	8.5-9.0	5-20	0	0.0-4.0	11-30
	19-35	30-40	---	8.5-9.0	5-20	0	0.0-4.0	11-30
	35-50	30-40	---	8.5-9.0	5-20	0	4.0-8.0	13-50
	50-60	30-40	---	8.5-9.0	5-20	0	4.0-8.0	13-50
285: Modoc-----	0-16	15-25	---	6.6-7.8	0	0	0.0-2.0	0
	16-28	20-40	---	7.4-8.4	0	0	0.0-2.0	1-2
	28-50	---	---	---	---	---	---	---
	50-60	10-20	---	7.4-7.8	1-3	0	0.0-2.0	3-5
Truax-----	0-6	5.0-15	---	6.1-7.3	0	0	0	0
	6-27	5.0-15	---	6.6-7.8	0	0	0	0
	27-41	5.0-10	---	7.4-8.4	0	0	0	0
	41-52	---	---	---	---	---	---	---
	52-60	5.0-10	---	7.4-8.4	0	0	2.0-4.0	0

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
286: Mottsville-----	0-17	5.0-20	---	6.1-7.3	0	0	0	0
	17-60	5.0-15	---	6.6-7.3	0	0	0	0
287: Mottsville-----	0-17	5.0-20	---	6.1-7.3	0	0	0	0
	17-60	5.0-15	---	6.6-7.3	0	0	0	0
288: Mottsville-----	0-17	5.0-20	---	6.1-7.3	0	0	0	0
	17-60	5.0-15	---	6.7-7.3	0	0	0	0
289: Mottsville-----	0-17	5.0-20	---	6.1-7.3	0	0	0	0
	17-60	5.0-15	---	6.6-7.3	0	0	0	0
290: Mottsville-----	0-17	5.0-20	---	6.1-7.3	0	0	0	0
	17-60	5.0-15	---	6.6-7.3	0	0	0	0
291: Mottsville-----	0-17	5.0-20	---	6.1-7.3	0	0	0	0
	17-60	5.0-15	---	6.6-7.3	0	0	0	0
292: Mottsville-----	0-17	5.0-20	---	6.1-7.3	0	0	0	0
	17-60	5.0-15	---	6.6-7.3	0	0	0	0
Galeppi-----	0-18	5.0-15	---	6.1-7.3	0	0	0	0
	18-36	10-20	---	6.6-7.8	0	0	0.0-2.0	0
	36-52	5.0-15	---	6.6-7.8	0	0	0.0-2.0	0
	52-60	5.0-10	---	6.6-7.8	0	0	0.0-2.0	0
293: Mountmed-----	0-6	100-200	---	6.6-7.3	0	0	0	0
	6-16	35-50	---	6.6-7.3	0	0	0	0
	16-38	30-50	---	6.6-7.8	0	0	0	0
	38-47	30-50	---	6.6-7.8	0	0	0	0
	47-60	10-30	---	6.6-7.8	0	0	0	0
294: Mountmed-----	0-6	20-40	---	6.6-7.3	0	0	0	0
	6-35	35-50	---	6.6-7.8	0	0	0	0
	35-60	20-40	---	6.6-7.8	0	0	0	0
295: Mountmed-----	0-12	20-40	---	6.6-7.3	0	0	0	0
	12-31	35-50	---	6.6-7.8	0	0	0	0
	31-60	20-40	---	6.6-7.8	0	0	0	0
296: Newlands-----	0-8	10-20	---	6.1-7.3	0	0	0	0
	8-43	10-25	---	6.1-7.3	0	0	0	0
	43-45	---	---	---	---	---	---	---
Hapgood-----	0-4	15-30	---	6.1-7.3	0	0	0	0
	4-41	20-30	---	6.1-7.3	0	0	0	0
	41-45	---	---	---	---	---	---	---
297: Ninemile-----	0-2	20-28	---	6.1-7.3	0	0	0	0
	2-11	38-54	---	6.6-7.3	0	0	0	0
	11-18	38-54	---	6.6-7.3	0	0	0	0
	18-22	---	---	---	---	---	---	---
Home Camp-----	0-3	10-20	---	6.1-7.3	0	0	0	0
	3-9	10-20	---	6.1-7.3	0	0	0	0
	9-17	17-25	---	6.1-7.3	0	0	0	0
	17-28	25-32	---	6.1-7.3	0	0	0	0
	28-32	---	---	---	---	---	---	---
Newlands-----	0-8	10-20	---	6.1-7.3	0	0	0	0
	8-43	10-25	---	6.1-7.3	0	0	0	0
	43-45	---	---	---	---	---	---	---

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
298:								
Ninemile-----	0-2	20-28	---	6.1-7.3	0	0	0	0
	2-11	38-54	---	6.6-7.3	0	0	0	0
	11-18	38-54	---	6.6-7.3	0	0	0	0
	18-22	---	---	---	---	---	---	---
Petescreek-----	0-10	25-35	---	6.1-7.3	0	0	0	0
	10-17	25-35	---	6.1-7.3	0	0	0	0
	17-27	25-35	---	6.1-7.3	0	0	0	0
	27-60	---	---	---	---	---	---	---
Fiddler-----	0-8	25-30	---	6.1-7.3	0	0	0	0
	8-14	30-40	---	6.1-7.3	0	0	0	0
	14-23	30-40	---	6.1-7.3	0	0	0	0
	23-28	---	---	---	---	---	---	---
299:								
Ninemile-----	0-2	20-28	---	6.1-7.3	0	0	0	0
	2-11	38-54	---	6.6-7.3	0	0	0	0
	11-18	38-54	---	6.6-7.3	0	0	0	0
	18-22	---	---	---	---	---	---	---
Weste-----	0-14	20-50	---	6.1-6.5	0	0	0	0
	14-24	20-30	---	6.1-6.5	0	0	0	0
	24-34	---	---	---	---	---	---	---
300:								
Observation-----	0-3	10-20	---	6.6-7.3	0	0	0	0
	3-9	10-20	---	6.6-7.3	0	0	0	0
	9-18	10-25	---	6.6-7.8	0	0	0	0
	18-35	20-40	---	6.6-7.8	0	0	0	0
	35-45	---	---	---	---	---	---	---
Searles-----	0-13	10-15	---	6.6-7.3	0	0	0	0
	13-29	15-20	---	6.6-7.3	0	0	0	0
	29-33	---	---	---	---	---	---	---
Madeline-----	0-5	15-25	---	6.1-7.3	0	0	0	0
	5-9	20-40	---	6.6-7.8	0	0	0	0
	9-16	20-40	---	6.6-7.8	0	0	0	0
	16-20	---	---	---	---	---	---	---
301:								
Observation-----	0-3	10-20	---	6.6-7.3	0	0	0	0
	3-9	10-20	---	6.6-7.3	0	0	0	0
	9-18	10-25	---	6.6-7.8	0	0	0	0
	18-35	20-40	---	6.6-7.8	0	0	0	0
	35-45	---	---	---	---	---	---	---
Searles-----	0-13	10-15	---	6.1-7.8	0	0	0	0
	13-29	15-20	---	6.6-7.8	0	0	0	0
	29-33	---	---	---	---	---	---	---
Madeline-----	0-5	15-25	---	6.1-7.3	0	0	0	0
	5-9	20-40	---	6.6-7.8	0	0	0	0
	9-16	20-40	---	6.6-7.8	0	0	0	0
	16-20	---	---	---	---	---	---	---
302:								
Orhood-----	0-4	15-25	---	6.6-7.3	0	0	0	0
	4-9	15-25	---	6.6-7.3	0	0	0	0
	9-19	25-30	---	6.6-7.3	0	0	0	0
	19-23	---	---	---	---	---	---	---
303:								
Orr-----	0-8	10-20	---	6.6-7.3	0	0	0	0
	8-21	15-25	---	7.4-7.8	0	0	0	0
	21-30	15-25	---	7.4-7.8	0	0	0	0
	30-36	15-25	---	7.4-7.8	0	0	0	0
	36-60	5.0-15	---	7.4-7.8	0	0	0	0
304:								
Outland-----	0-4	40-50	---	6.1-6.5	0	0	0	0
	4-18	20-30	---	6.1-6.5	0	0	0	0
	18-36	20-30	---	6.1-6.5	0	0	0	0
	36-46	---	---	---	---	---	---	---

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
305:								
Outland-----	0-4	40-50	---	6.1-6.5	0	0	0	0
	4-18	20-30	---	6.1-6.5	0	0	0	0
	18-36	20-30	---	6.1-6.5	0	0	0	0
	36-46	---	---	---	---	---	---	---
Outland-----	0-4	40-50	---	6.1-6.5	0	0	0	0
	4-18	20-30	---	6.1-6.5	0	0	0	0
	18-36	20-30	---	6.1-6.5	0	0	0	0
	36-46	---	---	---	---	---	---	---
306:								
Outland-----	0-4	40-50	---	6.1-6.5	0	0	0	0
	4-18	20-30	---	6.1-6.5	0	0	0	0
	18-36	20-30	---	6.1-6.5	0	0	0	0
	36-46	---	---	---	---	---	---	---
Penstock-----	0-12	15-30	---	5.6-7.3	0	0	0	0
	12-63	15-30	---	5.6-6.5	0	0	0	0
	63-73	---	---	---	---	---	---	---
307:								
Outland-----	0-4	40-50	---	6.1-6.5	0	0	0	0
	4-18	20-30	---	6.1-6.5	0	0	0	0
	18-36	20-30	---	6.1-6.5	0	0	0	0
	36-46	---	---	---	---	---	---	---
Penstock-----	0-12	15-30	---	5.6-7.3	0	0	0	0
	12-63	15-30	---	5.6-6.5	0	0	0	0
	63-73	---	---	---	---	---	---	---
308:								
Papeek-----	0-3	15-30	---	6.1-7.3	0	0	0	0
	3-24	25-40	---	6.1-7.3	0	0	0	0
	24-33	15-30	---	6.1-7.3	0	0	0	0
	33-43	---	---	---	---	---	---	---
309:								
Papeek-----	0-3	15-30	---	6.1-7.3	0	0	0	0
	3-24	25-40	---	6.1-7.3	0	0	0	0
	24-33	15-30	---	6.1-7.3	0	0	0	0
	33-43	---	---	---	---	---	---	---
310:								
Penstock-----	0-12	15-30	---	5.6-6.5	0	0	0	0
	12-63	15-30	---	5.6-6.5	0	0	0	0
	63-73	---	---	---	---	---	---	---
Deadwood-----	0-9	5.0-15	---	6.1-7.3	0	0	0	0
	9-16	5.0-10	---	6.1-7.3	0	0	0	0
	16-20	---	---	---	---	---	---	---
311:								
Penstock-----	0-12	15-30	---	5.6-7.3	0	0	0	0
	12-63	15-30	---	5.6-6.5	0	0	0	0
	63-73	---	---	---	---	---	---	---
Deadwood-----	0-9	5.0-15	---	6.1-7.3	0	0	0	0
	9-16	5.0-10	---	6.1-7.3	0	0	0	0
	16-20	---	---	---	---	---	---	---
Rock outcrop-----	0-60	---	---	---	---	---	---	---
312:								
Penstock-----	0-12	15-30	---	5.6-7.3	0	0	0	0
	12-63	15-30	---	5.6-6.5	0	0	0	0
	63-73	---	---	---	---	---	---	---
Scaribou, stony loam-	0-6	15-30	---	6.1-6.5	0	0	0	0
	6-17	15-30	---	6.1-7.3	0	0	0	0
	17-60	15-30	---	6.1-7.3	0	0	0	0

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
313: Penstock-----	0-12	15-30	---	5.6-7.3	0	0	0	0
	12-63	15-30	---	5.6-6.5	0	0	0	0
	63-73	---	---	---	---	---	---	---
Scaribou, stony loam-	0-6	15-30	---	6.1-6.5	0	0	0	0
	6-17	15-30	---	6.1-7.3	0	0	0	0
	17-60	15-30	---	6.1-7.3	0	0	0	0
314: Pequop, very cobbly loam-----	0-3	10-25	---	6.6-7.3	0	0	0	0
	3-19	15-30	---	6.6-7.3	0	0	0	0
	19-36	15-30	---	6.6-7.3	0	0	0	0
	36-50	10-20	---	6.6-7.3	0	0	0	0
	50-55	---	---	---	---	---	---	---
Observation-----	0-3	10-20	---	6.6-7.3	0	0	0	0
	3-9	10-20	---	6.6-7.3	0	0	0	0
	9-18	10-25	---	6.6-7.8	0	0	0	0
	18-35	20-40	---	6.6-7.8	0	0	0	0
	35-45	---	---	---	---	---	---	---
315: Pequop-----	0-3	10-25	---	6.6-7.3	0	0	0	0
	3-19	15-30	---	6.6-7.8	0	0	0	0
	19-36	15-30	---	6.6-7.8	0	0	0	0
	36-50	10-20	---	6.6-7.8	0	0	0	0
	50-55	---	---	---	---	---	---	---
Observation-----	0-3	10-20	---	6.6-7.3	0	0	0	0
	3-9	10-20	---	6.6-7.3	0	0	0	0
	9-18	10-25	---	6.6-7.8	0	0	0	0
	18-35	20-40	---	6.6-7.8	0	0	0	0
	35-45	---	---	---	---	---	---	---
316: Petescreek-----	0-10	25-35	---	6.1-7.3	0	0	0	0
	10-17	25-35	---	6.1-7.3	0	0	0	0
	17-27	25-35	---	6.1-7.3	0	0	0	0
	27-60	---	---	---	---	---	---	---
Bucklake-----	0-8	10-20	---	6.1-7.3	0	0	0	0
	8-12	20-30	---	6.6-7.8	0	0	0	0
	12-24	25-40	---	6.6-7.8	0	0	0	0
	24-34	---	---	---	---	---	---	---
Devada-----	0-7	20-30	---	6.1-7.8	0	0	0	0
	7-15	32-48	---	6.1-7.8	0	0	0	0
	15-19	---	---	---	---	---	---	---
317: Petescreek-----	0-10	25-35	---	6.1-7.3	0	0	0	0
	10-17	25-35	---	6.1-7.3	0	0	0	0
	17-27	25-35	---	6.1-7.3	0	0	0	0
	27-60	---	---	---	---	---	---	---
Devada-----	0-7	20-30	---	6.1-7.3	0	0	0	0
	7-15	32-48	---	6.1-7.3	0	0	0	0
	15-19	---	---	---	---	---	---	---
Searles-----	0-13	10-15	---	6.1-7.8	0	0	0	0
	13-29	15-20	---	6.6-7.8	0	0	0	0
	29-33	---	---	---	---	---	---	---
318: Petescreek-----	0-10	25-35	---	6.1-7.3	0	0	0	0
	10-17	25-35	---	6.1-7.3	0	0	0	0
	17-27	25-35	---	6.1-7.3	0	0	0	0
	27-60	---	---	---	---	---	---	---
Devada-----	0-7	20-30	---	6.1-7.3	0	0	0	0
	7-15	32-48	---	6.1-7.3	0	0	0	0
	15-19	---	---	---	---	---	---	---
Searles-----	0-13	10-15	---	6.1-7.8	0	0	0	0
	13-29	15-20	---	6.6-7.8	0	0	0	0
	29-33	---	---	---	---	---	---	---

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
319: Petescreek-----	0-10	25-35	---	6.1-7.3	0	0	0	0
	10-17	25-35	---	6.1-7.3	0	0	0	0
	17-27	25-35	---	6.1-7.3	0	0	0	0
	27-60	---	---	---	---	---	---	---
Fredonyer-----	0-4	25-45	---	6.1-7.3	0	0	0	0
	4-12	30-40	---	6.1-7.3	0	0	0	0
	12-28	30-40	---	6.1-7.3	0	0	0	0
	28-32	---	---	---	---	---	---	---
320: Petescreek-----	0-10	25-35	---	6.1-7.3	0	0	0	0
	10-17	25-35	---	6.1-7.3	0	0	0	0
	17-27	25-35	---	6.1-7.3	0	0	0	0
	27-60	---	---	---	---	---	---	---
Fredonyer-----	0-4	25-45	---	6.1-7.3	0	0	0	0
	4-12	30-40	---	6.1-7.3	0	0	0	0
	12-28	30-40	---	6.1-7.3	0	0	0	0
	28-32	---	---	---	---	---	---	---
321: Petescreek-----	0-10	25-35	---	6.1-7.3	0	0	0	0
	10-17	25-35	---	6.1-7.3	0	0	0	0
	17-27	25-35	---	6.1-7.3	0	0	0	0
	27-60	---	---	---	---	---	---	---
Orhood-----	0-4	15-25	---	6.6-7.3	0	0	0	0
	4-9	15-25	---	6.6-7.3	0	0	0	0
	9-19	25-30	---	6.6-7.3	0	0	0	0
	19-23	---	---	---	---	---	---	---
Fredonyer-----	0-4	25-45	---	6.1-7.3	0	0	0	0
	4-12	30-40	---	6.1-7.3	0	0	0	0
	12-28	30-40	---	6.1-7.3	0	0	0	0
	28-38	---	---	---	---	---	---	---
322: Petescreek-----	0-10	25-35	---	6.1-7.3	0	0	0	0
	10-17	25-35	---	6.1-7.3	0	0	0	0
	17-27	25-35	---	6.1-7.3	0	0	0	0
	27-60	---	---	---	---	---	---	---
Searles-----	0-8	10-15	---	6.1-7.8	0	0	0	0
	8-40	15-20	---	6.6-7.8	0	0	0	0
	40-50	---	---	---	---	---	---	---
323: Petescreek-----	0-10	25-35	---	6.1-7.3	0	0	0	0
	10-17	25-35	---	6.1-7.3	0	0	0	0
	17-27	25-35	---	6.1-7.3	0	0	0	0
	27-60	---	---	---	---	---	---	---
Searles-----	0-13	10-15	---	6.1-7.8	0	0	0	0
	13-29	15-20	---	6.6-7.8	0	0	0	0
	29-33	---	---	---	---	---	---	---
Orhood-----	0-4	15-25	---	6.6-7.3	0	0	0	0
	4-9	15-25	---	6.6-7.3	0	0	0	0
	9-19	25-30	---	6.6-7.3	0	0	0	0
	19-23	---	---	---	---	---	---	---
324: Pit-----	0-24	55-65	---	6.6-7.8	0-5	0	0.0-2.0	20-30
	24-37	55-65	---	7.4-8.4	5-10	0	0.0-4.0	15-25
	37-60	50-60	---	7.4-8.4	5-10	0	0.0-4.0	10-20
325: Pits-----	0-60	---	---	---	---	---	---	---
Dumps-----	0-60	---	---	---	---	---	---	---
326: Playas, silty clay---	0-6	15-40	---	8.5-9.0	5-15	1-5	16.0-32.0	0
	6-60	15-40	---	8.5-9.0	5-15	1-5	16.0-32.0	0
327: Plinco, gravelly sandy loam-----	0-5	5.0-15	---	6.6-7.3	0	0	0.0-2.0	0
	5-11	5.0-15	---	6.6-7.3	0	0	0.0-2.0	0
	11-47	5.0-15	---	6.6-7.3	0	0	0.0-2.0	0
	47-64	5.0-15	---	6.6-7.3	0	0	0.0-2.0	0

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
328: Plinco-----	0-5	5.0-15	---	6.6-7.3	0	0	0.0-2.0	0
	5-11	5.0-15	---	6.6-7.3	0	0	0.0-2.0	0
	11-47	5.0-15	---	6.6-7.3	0	0	0.0-2.0	0
	47-64	5.0-15	---	6.6-7.3	0	0	0.0-2.0	0
329: Puls-----	0-2	15-25	---	6.1-7.3	0	0	0	0
	2-6	20-30	---	6.1-7.3	0	0	0	0
	6-15	35-50	---	6.1-7.3	0	0	0	0
	15-31	---	---	---	---	---	---	---
	31-35	---	---	---	---	---	---	---
330: Puls-----	0-2	15-25	---	6.1-7.3	0	0	0	0
	2-6	20-30	---	6.1-7.3	0	0	0	0
	6-15	35-50	---	6.1-7.3	0	0	0	0
	15-31	---	---	---	---	---	---	---
	31-35	---	---	---	---	---	---	---
Ninekar-----	0-3	15-25	---	6.1-7.3	0	0	0	0
	3-6	45-60	---	6.6-8.4	0	0	0.0-2.0	0
	6-21	45-60	---	6.6-8.4	0	0	0.0-2.0	0
	21-28	45-60	---	6.6-8.4	0	0	0.0-2.0	0
	28-38	---	---	---	---	---	---	---
331: Puls-----	0-2	15-25	---	6.1-7.3	0	0	0	0
	2-6	20-30	---	6.1-7.3	0	0	0	0
	6-15	35-50	---	6.1-7.3	0	0	0	0
	15-31	---	---	---	---	---	---	---
	31-35	---	---	---	---	---	---	---
Tunnison-----	0-1	50-60	---	7.4-7.8	0	0	0	0
	1-31	50-60	---	7.4-7.8	0	0	0	0
	31-38	---	---	---	---	---	---	---
	38-48	---	---	---	---	---	---	---
332: Quartzburg-----	0-7	2.0-15	---	6.1-6.5	0	0	0	0
	7-26	0.0-9.0	---	6.1-6.5	0	0	0	0
	26-30	---	---	---	---	---	---	---
Scaribou-----	0-12	15-30	---	6.1-6.5	0	0	0	0
	12-40	15-30	---	6.1-7.3	0	0	0	0
	40-60	15-30	---	6.1-7.3	0	0	0	0
333: Ravendale-----	0-16	45-55	---	6.6-8.4	0	0	0	0
	16-48	45-55	---	7.4-8.4	0	0	0	0
	48-60	45-55	---	7.4-8.4	0-2	0	0.0-4.0	0
334: Ravendale-----	0-16	45-55	---	6.6-8.4	0	0	0	0
	16-48	45-55	---	7.4-8.4	0	0	0	0
	48-60	45-55	---	7.4-8.4	0-2	0	0.0-4.0	0
335: Ravendale-----	0-16	45-55	---	6.6-8.4	0	0	0	0
	16-48	45-55	---	7.4-8.4	0	0	0	0
	48-60	45-55	---	7.4-8.4	0-2	0	0.0-4.0	0
336: Ravendale-----	0-16	45-55	---	7.4-8.4	0	0	2.0-4.0	0
	16-48	45-55	---	7.4-8.4	0	0	2.0-4.0	0
	48-60	45-55	---	7.4-8.4	0-1	0-1	0.0-4.0	0
337: Redriver-----	0-5	30-40	---	6.1-7.3	0	0	0	0
	5-17	20-30	---	5.6-6.5	0	0	0	0
	17-38	20-30	---	5.6-6.5	0	0	0	0
	38-42	---	---	---	---	---	---	---
Gerle-----	0-13	5.0-15	---	6.1-6.5	0	0	0	0
	13-36	5.0-10	---	5.6-6.5	0	0	0	0
	36-60	2.0-8.0	---	5.6-6.5	0	0	0	0
338: Redriver-----	0-3	30-40	---	6.1-7.3	0	0	0	0
	3-19	20-30	---	5.6-6.5	0	0	0	0
	19-36	20-30	---	5.6-6.5	0	0	0	0
	36-40	---	---	---	---	---	---	---

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
Weste-----	0-14	20-50	---	6.1-6.5	0	0	0	0
	14-24	20-30	---	6.1-6.5	0	0	0	0
	24-34	---	---	---	---	---	---	---
339: Redriver, stony sandy loam-----	0-6	30-40	---	6.1-7.3	0	0	0	0
	6-14	20-30	---	5.6-6.5	0	0	0	0
	14-28	20-30	---	5.6-6.5	0	0	0	0
	28-32	---	---	---	---	---	---	---
Woodwest-----	0-9	15-20	---	6.1-6.5	0	0	0	0
	9-19	10-20	---	6.1-6.5	0	0	0	0
	19-29	---	---	---	---	---	---	---
Wafila-----	0-13	10-20	---	6.1-7.3	0	0	0	0
	13-24	10-20	---	6.1-7.3	0	0	0	0
	24-35	15-25	---	6.1-7.3	0	0	0	0
	35-42	15-25	---	6.1-7.3	0	0	0	0
	42-52	15-25	---	6.1-7.3	0	0	0	0
	52-62	---	---	---	---	---	---	---
340: Ricas-----	0-16	30-40	---	7.9-8.4	1-3	0	0.0-4.0	5-12
	16-22	20-35	---	7.9-8.4	15-40	0	2.0-8.0	5-30
	22-65	20-35	---	7.9-8.4	15-40	0	2.0-8.0	5-30
341: Rose Creek-----	0-5	10-15	---	7.9-8.4	0-3	0	2.0-4.0	1-12
	5-60	5.0-15	---	7.4-8.4	0-5	0	2.0-4.0	1-12
342: Rose Creek-----	0-25	10-15	---	7.9-8.4	0-3	0	4.0-8.0	5-12
	25-60	5.0-15	---	7.9-8.4	0-5	0	4.0-8.0	5-30
343: Rubble land-----	0-60	---	---	---	0	0	0	0
Fiddler-----	0-8	25-30	---	6.1-7.3	0	0	0	0
	8-14	30-40	---	6.1-7.3	0	0	0	0
	14-23	30-40	---	6.1-7.3	0	0	0	0
	23-28	---	---	---	---	---	---	---
344: Rubble land-----	0-60	---	---	---	0	0	0	0
Longcreek-----	0-3	15-20	---	6.6-7.3	0	0	0	0
	3-7	35-45	---	6.6-7.8	0	0	0	0
	7-18	25-35	---	6.6-7.8	0	0	0	0
	18-28	---	---	---	---	---	---	---
Fivesprings-----	0-3	10-20	---	6.1-7.3	0	0	0	0
	3-8	12-25	---	6.6-7.8	0	0	0.0-2.0	0
	8-23	20-40	---	6.6-7.8	0	0	0.0-2.0	0
	23-33	---	---	---	---	---	---	---
345: Rubble land-----	0-60	---	---	---	0	0	0	0
Rock outcrop-----	0-60	---	---	---	---	---	---	---
346: Rubble land-----	0-60	---	---	---	0	0	0	0
Weste-----	0-14	20-50	---	6.1-6.5	0	0	0	0
	14-24	20-30	---	6.1-6.5	0	0	0	0
	24-34	---	---	---	---	---	---	---
347: Saddlerock-----	0-6	100-200	---	6.6-7.3	0	0	0	0
	6-12	35-50	---	7.4-8.4	0	0	0	0
	12-60	35-50	---	7.4-8.4	0	0	0.0-2.0	0
348: Saddlerock-----	0-12	30-50	---	7.4-8.4	0	0	0	0
	12-52	25-45	---	7.4-8.4	0	0	0.0-2.0	0
	52-60	25-45	---	7.4-8.4	0	0	0.0-2.0	0
349: Saddlerock-----	0-12	30-50	---	7.4-8.4	0	0	0	0
	12-52	25-45	---	7.4-8.4	0	0	0.0-2.0	0
	52-60	25-45	---	7.4-8.4	0	0	0.0-2.0	0

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
350:								
Saddlerock-----	0-12	30-50	---	7.4-8.4	0	0	0	0
	12-52	25-45	---	7.4-8.4	0	0	0.0-2.0	0
	52-60	25-45	---	7.4-8.4	0	0	0.0-2.0	0
Yoba-----	0-4	10-15	---	8.5-9.0	5-10	0	8.0-32.0	31-60
	4-60	11-16	---	7.9-9.0	5-10	0-1	2.0-8.0	13-40
Termo-----	0-3	40-50	---	6.6-7.8	0	0	0.0-2.0	5-10
	3-27	50-60	---	7.4-8.4	0	0	2.0-8.0	14-25
	27-60	40-50	---	7.4-8.4	0	0	8.0-16.0	15-30
351:								
Said-----	0-13	30-45	---	5.6-6.5	0	0	0	0
	13-26	20-30	---	5.6-6.5	0	0	0	0
	26-37	20-35	---	5.1-6.5	0	0	0	0
	37-56	20-35	---	5.1-6.5	0	0	0	0
	56-66	---	---	---	---	---	---	---
352:								
Said-----	0-13	30-45	---	5.6-6.5	0	0	0	0
	13-26	20-30	---	5.6-6.5	0	0	0	0
	26-56	20-35	---	5.1-6.5	0	0	0	0
	56-66	---	---	---	---	---	---	---
Fraval-----	0-14	20-30	---	6.1-6.5	---	---	0	0
	14-34	30-50	---	6.1-6.5	---	---	0	0
	34-40	---	---	---	---	---	---	---
353:								
Said-----	0-13	30-45	---	5.6-6.5	0	0	0	0
	13-26	20-30	---	5.6-6.5	0	0	0	0
	26-56	20-35	---	5.6-6.5	0	0	0	0
	56-66	---	---	---	---	---	---	---
Ninemile-----	0-2	20-28	---	6.6-7.3	0	0	0	0
	2-11	38-54	---	6.6-7.3	0	0	0	0
	11-18	38-54	---	6.6-7.3	0	0	0	0
	18-22	---	---	---	---	---	---	---
354:								
Scaribou-----	0-3	15-30	---	6.1-6.5	0	0	0	0
	3-19	15-30	---	6.1-6.5	0	0	0	0
	19-33	15-30	---	6.1-7.3	0	0	0	0
	33-60	15-30	---	6.1-7.3	0	0	0	0
355:								
Scaribou-----	0-6	15-30	---	6.1-6.5	0	0	0	0
	6-17	15-30	---	6.1-7.3	0	0	0	0
	17-60	15-30	---	6.1-7.3	0	0	0	0
	60-70	15-30	---	6.1-7.3	0	0	0	0
Penstock-----	0-12	15-30	---	5.6-7.3	0	0	0	0
	12-63	15-30	---	5.6-6.5	0	0	0	0
	63-73	---	---	---	---	---	---	---
Rock outcrop-----	0-60	---	---	---	---	---	---	---
356:								
Searles-----	0-13	10-15	---	6.6-7.3	0	0	0	0
	13-29	10-15	---	6.6-7.3	0	0	0	0
	29-33	---	---	---	---	---	---	---
Devada-----	0-7	20-30	---	6.1-7.8	0	0	0	0
	7-15	32-48	---	6.1-7.8	0	0	0	0
	15-19	---	---	---	---	---	---	---
Fivesprings-----	0-3	10-20	---	6.1-7.3	0	0	0	0
	3-8	12-25	---	6.6-7.8	0	0	0.0-2.0	0
	8-23	20-40	---	6.6-7.8	0	0	0.0-2.0	0
	23-33	---	---	---	---	---	---	---
357:								
Searles-----	0-13	10-15	---	6.1-7.3	0	0	0	0
	13-29	15-20	---	6.6-7.3	0	0	0	0
	29-33	---	---	---	---	---	---	---
Devada-----	0-7	20-30	---	6.1-7.8	0	0	0	0
	7-15	32-48	---	6.1-7.8	0	0	0	0
	15-19	---	---	---	---	---	---	---
Rubble land-----	0-60	---	---	---	0	0	0	0

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
358: Searles-----	0-13 13-29 29-33	10-15 15-20 ---	--- --- ---	6.1-7.3 6.6-7.3 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
Glean-----	0-14 14-44 44-48	5.0-15 5.0-15 ---	--- --- ---	6.1-7.3 6.1-7.3 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
359: Searles-----	0-13 13-29 29-33	10-15 15-20 ---	--- --- ---	6.1-7.3 6.6-7.3 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
Glean-----	0-14 14-44 44-48	5.0-15 5.0-15 ---	--- --- ---	6.1-7.3 6.1-7.3 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
360: Searles-----	0-13 13-29 29-33	10-15 15-20 ---	--- --- ---	6.1-7.3 6.6-7.3 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
Orhood-----	0-4 4-9 9-19 19-23	15-25 15-25 25-30 ---	--- --- --- ---	6.6-7.3 6.6-7.3 6.6-7.3 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---
Devada-----	0-7 7-15 15-19	20-30 32-48 ---	--- --- ---	6.1-7.8 6.1-7.8 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
361: Shinnpeak, very cobbly sandy loam---	0-2 2-13 13-22 22-60	10-25 20-30 --- ---	--- --- --- ---	6.1-7.3 6.6-7.3 --- ---	0 0 --- ---	0 0 --- ---	0 0 --- ---	0 0 --- ---
362: Smocreek-----	0-13 13-19 19-60	10-25 15-30 15-30	--- --- ---	7.4-8.4 7.9-9.0 7.9-9.0	5-12 5-12 5-12	0 0 0	4.0-8.0 8.0-16.0 8.0-16.0	10-20 20-50 20-50
363: Smocreek, silt loam--	0-13 13-19 19-60	10-25 15-30 15-30	--- --- ---	7.4-8.4 7.9-9.0 7.9-9.0	5-12 5-12 5-12	0 0 0	4.0-8.0 8.0-16.0 8.0-16.0	10-20 20-50 20-50
364: Southpac-----	0-7 7-35 35-61	20-30 40-50 40-50	--- --- ---	6.1-7.3 6.1-6.5 6.1-6.5	0 0 0	0 0 0	0 0 0	0 0 0
365: Springmeyer-----	0-11 11-25 25-60	5.0-20 25-30 15-20	--- --- ---	6.1-7.3 6.6-7.8 6.6-7.8	0 0 0-1	0 0 0	0 0 0.0-2.0	0 0 0
366: Springmeyer-----	0-15 15-46 46-60	20-25 25-30 15-20	--- --- ---	6.1-7.3 6.6-7.8 6.6-7.8	0 0 0-1	0 0 0	0 0 0.0-2.0	0 0 0
367: Stacy-----	0-17 17-50 50-62	10-20 5.0-15 1.0-5.0	--- --- ---	7.4-8.4 7.9-8.4 7.9-8.4	0 0 0-1	0 0 0	0.0-2.0 0.0-2.0 0.0-4.0	0 0 0
368: Standish-----	0-4 4-7 7-16 16-27 27-53 53-65	35-45 35-45 30-40 30-40 25-35 25-35	--- --- --- --- --- ---	6.6-8.4 7.9-9.0 7.9-9.0 7.9-9.0 7.9-9.0 7.9-9.0	0 1-5 0-5 1-5 1-5 1-5	0 0 0 0 0 0	0.0-4.0 4.0-8.0 4.0-8.0 4.0-8.0 4.0-8.0 4.0-8.0	0-13 13-30 13-30 13-30 13-30 0-30

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
369: Stiles-----	0-5	35-45	---	7.9-8.4	1-3	0	0.0-4.0	0
	5-8	35-45	---	7.9-8.4	1-3	0	0.0-4.0	0
	8-13	30-40	---	7.9-8.4	5-15	0	0.0-4.0	0
	13-18	25-35	---	7.9-8.4	5-15	0	4.0-8.0	0-13
	18-30	25-35	---	7.9-8.4	5-15	0	4.0-8.0	0-13
	30-40	---	---	---	---	---	---	---
370: Sumine-----	0-3	20-30	---	6.6-7.3	0	0	0	0
	3-26	25-40	---	6.6-7.3	0	0	0	0
	26-30	---	---	---	---	---	---	---
Softscrabble, stony fine sandy loam----	0-11	10-25	---	6.1-7.3	0	0	0	0
	11-20	15-30	---	6.1-7.3	0	0	0	0
	20-26	15-30	---	6.6-7.3	0	0	0	0
	26-60	15-30	---	6.6-7.3	0	0	0	0
	60-64	---	---	---	---	---	---	---
Hutchley-----	0-9	11-21	---	6.6-7.3	0	0	0	0
	9-14	17-22	---	6.6-7.3	0	0	0	0
	14-18	---	---	---	---	---	---	---
371: Susanville-----	0-10	10-20	---	6.6-8.4	0	0	0.0-2.0	5-13
	10-16	40-55	---	7.9-8.4	0	0	2.0-8.0	13-50
	16-39	50-60	---	7.9-8.4	1-4	0	8.0-32.0	30-50
	39-62	20-50	---	7.9-8.4	1-4	0	8.0-32.0	30-100
372: Susanville-----	0-3	10-20	---	6.6-8.4	0	0	0.0-2.0	5-13
	3-16	40-55	---	7.9-8.4	0	0	2.0-8.0	13-50
	16-39	50-60	---	7.9-8.4	1-4	0	8.0-32.0	30-50
	39-62	20-50	---	7.9-8.4	1-4	0	8.0-32.0	30-100
Smocreek-----	0-13	10-25	---	7.4-8.4	5-12	0	4.0-8.0	10-20
	13-19	15-30	---	7.9-9.0	5-12	0	8.0-16.0	20-50
	19-60	15-30	---	7.9-9.0	5-12	0	8.0-16.0	20-50
373: Swainow-----	0-3	20-25	---	6.1-6.5	0	0	0	0
	3-18	20-25	---	6.1-6.5	0	0	0	0
	18-35	15-25	---	5.6-6.5	0	0	0	0
	35-44	10-20	---	6.1-6.5	0	0	0	0
	44-54	---	---	---	---	---	---	---
Almanor-----	0-5	20-30	---	6.1-6.5	0	0	0	0
	5-17	15-25	---	6.1-6.5	0	0	0	0
	17-40	15-25	---	6.1-6.5	0	0	0	0
	40-50	---	---	---	---	---	---	---
Tahand-----	0-3	20-35	---	5.6-6.5	0	0	0	0
	3-8	20-35	---	5.6-6.5	0	0	0	0
	8-15	15-25	---	5.6-6.5	0	0	0	0
	15-34	15-30	---	5.1-6.5	0	0	0	0
	34-46	15-30	---	5.1-6.5	0	0	0	0
	46-56	---	---	---	---	---	---	---
374: Swainow, very stony sandy loam-----	0-3	20-25	---	6.1-6.5	0	0	0	0
	3-18	20-25	---	6.1-6.5	0	0	0	0
	18-35	15-25	---	5.6-6.5	0	0	0	0
	35-44	10-20	---	6.1-6.5	0	0	0	0
	44-54	---	---	---	---	---	---	---
Almanor-----	0-5	20-30	---	6.1-6.5	0	0	0	0
	5-17	15-25	---	6.1-6.5	0	0	0	0
	17-40	15-25	---	6.1-6.5	0	0	0	0
	40-50	---	---	---	---	---	---	---
375: Swainow-----	0-11	20-30	---	6.1-6.5	0	0	0	0
	11-36	20-30	---	5.6-6.5	0	0	0	0
	36-47	15-20	---	6.1-6.5	0	0	0	0
	47-51	---	---	---	---	---	---	---
Redriver-----	0-6	30-40	---	6.1-7.3	0	0	0	0
	6-14	20-30	---	5.6-6.5	0	0	0	0
	14-28	20-30	---	5.6-6.5	0	0	0	0
	28-32	---	---	---	---	---	---	---

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
376:								
Swainow-----	0-3	20-25	---	6.1-6.5	0	0	0	0
	3-18	20-25	---	6.1-6.5	0	0	0	0
	18-35	15-25	---	5.6-6.5	0	0	0	0
	35-44	10-20	---	6.1-6.5	0	0	0	0
	44-54	---	---	---	---	---	---	---
Tahand-----	0-3	20-35	---	5.6-6.5	0	0	0	0
	3-8	20-35	---	5.6-6.5	0	0	0	0
	8-15	15-25	---	5.6-6.5	0	0	0	0
	15-34	15-30	---	5.1-6.5	0	0	0	0
	34-46	15-30	---	5.1-6.5	0	0	0	0
	46-56	---	---	---	---	---	---	---
377:								
Tahand-----	0-3	20-35	---	5.6-6.5	0	0	0	0
	3-8	20-35	---	5.6-6.5	0	0	0	0
	8-15	15-25	---	5.6-6.5	0	0	0	0
	15-34	15-30	---	5.1-6.5	0	0	0	0
	34-46	15-30	---	5.1-6.5	0	0	0	0
	46-56	---	---	---	---	---	---	---
Baileycreek-----	0-9	20-50	---	6.1-6.5	0	0	0	0
	9-24	20-30	---	6.1-6.5	0	0	0	0
	24-28	---	---	---	0	0	---	---
378:								
Tahand-----	0-3	20-35	---	5.6-6.5	0	0	0	0
	3-8	20-35	---	5.6-6.5	0	0	0	0
	8-15	15-25	---	5.6-6.5	0	0	0	0
	15-34	15-30	---	5.1-6.5	0	0	0	0
	34-46	15-30	---	5.1-6.5	0	0	0	0
	46-56	---	---	---	---	---	---	---
Swainow-----	0-18	20-25	---	6.1-6.5	0	0	0	0
	18-35	15-25	---	5.6-6.5	0	0	0	0
	35-44	10-20	---	6.1-6.5	0	0	0	0
	44-54	---	---	---	---	---	---	---
Almanor-----	0-5	20-30	---	6.1-6.5	0	0	0	0
	5-17	15-25	---	6.1-6.5	0	0	0	0
	17-40	15-25	---	6.1-6.5	0	0	0	0
	40-50	---	---	---	---	---	---	---
379:								
Termo-----	0-2	40-50	---	5.6-7.8	0	0	0.0-2.0	5-10
	2-38	50-60	---	7.4-8.4	0	0	2.0-8.0	14-25
	38-60	40-50	---	7.4-8.4	0	0	8.0-16.0	15-30
	60-65	30-40	---	7.4-8.4	1-10	0-1	8.0-32.0	15-30
Biscaro-----	0-3	10-20	---	6.6-7.8	0-1	0	0	0-5
	3-9	25-35	---	6.6-8.4	1-3	0	0.0-2.0	8-12
	9-14	25-35	---	6.6-8.4	1-3	0	0.0-2.0	8-12
	14-24	15-30	---	7.4-8.4	1-3	0	0.0-2.0	0-10
	24-38	15-30	---	7.4-8.4	1-3	0	0.0-2.0	0-10
	38-60	---	---	---	---	---	---	---
380:								
Termo-----	0-2	40-50	---	6.6-7.8	0	0	0.0-2.0	5-10
	2-38	50-60	---	7.4-8.4	0	0	2.0-8.0	14-25
	38-60	40-50	---	7.4-8.4	0	0	8.0-16.0	15-30
	60-65	30-40	---	7.4-8.4	1-10	0-1	8.0-32.0	15-30
Playas-----	0-6	15-40	---	8.5-9.0	5-15	1-5	16.0-32.0	0
	6-60	15-40	---	8.5-9.0	5-15	1-5	16.0-32.0	0
381:								
Termo-----	0-2	40-50	---	6.6-7.8	0	0	0.0-2.0	5-10
	2-38	50-60	---	7.4-8.4	0	0	2.0-8.0	14-25
	38-60	40-50	---	7.4-8.4	0	0	8.0-16.0	15-30
	60-65	30-40	---	7.4-8.4	1-10	0-1	8.0-32.0	15-30
Springmeyer-----	0-11	20-25	---	6.1-7.3	0	0	0	0
	11-46	25-30	---	6.6-7.8	0	0	0	0
	46-60	15-20	---	6.6-7.8	0-1	0	0.0-2.0	0
Smocreek-----	0-13	10-25	---	7.4-8.4	5-12	0	4.0-8.0	10-20
	13-19	15-30	---	7.9-9.0	5-12	0	8.0-16.0	20-50
	19-60	15-30	---	7.9-9.0	5-12	0	8.0-16.0	20-50

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
382:								
Toiyabe-----	0-7	3.0-10	---	6.1-6.5	0	0	0	0
	7-15	1.0-4.0	---	6.1-6.5	0	0	0	0
	15-19	---	---	---	---	---	---	---
Lasco-----	0-9	2.0-12	---	6.1-6.5	0	0	0	0
	9-49	2.0-12	---	6.1-6.5	0	0	0	0
	49-59	---	---	---	---	---	---	---
Quartzburg-----	0-7	2.0-15	---	6.1-6.5	0	0	0	0
	7-26	0.0-9.0	---	5.6-6.5	0	0	0	0
	26-30	---	---	---	---	---	---	---
383:								
Toiyabe-----	0-7	3.0-10	---	6.1-6.5	0	0	0	0
	7-15	1.0-4.0	---	6.1-6.5	0	0	0	0
	15-19	---	---	---	---	---	---	---
Lasco-----	0-9	2.0-12	---	6.1-6.5	0	0	0	0
	9-49	2.0-12	---	6.1-6.5	0	0	0	0
	49-59	---	---	---	---	---	---	---
384:								
Torriorhents-----	0-3	---	---	8.5-9.0	0-10	0	0.0-4.0	0-13
	3-60	---	---	8.5-9.0	0-10	0	0.0-4.0	0-13
Zoravista-----	0-4	0.0-5.0	---	7.9-8.4	1-5	0	0.0-4.0	0
	4-60	0.0-3.0	---	7.4-9.0	0-5	0	0.0-4.0	0
385:								
Truax-----	0-11	5.0-15	---	6.1-7.3	0	0	0	0
	11-38	5.0-15	---	6.6-7.8	0	0	0	0
	38-50	5.0-10	---	6.6-7.8	0	0	0	0
	50-52	---	---	---	---	---	---	---
	52-60	5.0-10	---	7.4-8.4	0	0	2.0-4.0	0
386:								
Truckee-----	0-17	10-20	---	7.9-8.4	1-5	0	2.0-4.0	1-5
	17-69	15-25	---	7.9-8.4	1-5	0	2.0-4.0	1-5
387:								
Truckee-----	0-12	10-20	---	7.9-8.4	1-5	0	2.0-4.0	1-5
	12-69	15-25	---	7.9-8.4	1-5	0	2.0-4.0	1-5
Humboldt-----	0-21	45-60	---	7.9-8.4	1-3	0	0.0-4.0	0
	21-60	30-40	---	7.9-8.4	1-5	0	0.0-4.0	0
388:								
Tunnison-----	0-1	50-60	---	7.4-7.8	0	0	0	0
	1-31	50-60	---	7.4-7.8	0	0	0	0
	31-38	---	---	---	---	---	---	---
	38-48	---	---	---	---	---	---	---
389:								
Tunnison-----	0-1	50-60	---	7.4-7.8	0	0	0	0
	1-31	50-60	---	7.4-7.8	0	0	0	0
	31-38	---	---	---	---	---	---	---
	38-48	---	---	---	---	---	---	---
Devada-----	0-4	20-30	---	6.1-7.8	0	0	0	0
	4-13	32-48	---	6.1-7.8	0	0	0	0
	13-23	---	---	---	---	---	---	---
390:								
Tunnison-----	0-1	50-60	---	7.4-7.8	0	0	0	0
	1-31	50-60	---	7.4-7.8	0	0	0	0
	31-38	---	---	---	---	---	---	---
	38-48	---	---	---	---	---	---	---
Devada-----	0-7	20-30	---	6.1-7.8	0	0	0	0
	7-15	32-48	---	6.1-7.8	0	0	0	0
	15-19	---	---	---	---	---	---	---

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
391: Ulhalf-----	0-4 4-18 18-54 54-64	20-30 40-50 40-50 ---	--- --- --- ---	6.1-6.5 5.6-6.5 5.6-6.5 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---
392: Ulhalf-----	0-4 4-18 18-54 54-64	20-30 40-50 40-50 ---	--- --- --- ---	6.1-6.5 5.6-6.5 5.6-6.5 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---
393: Ulhalf-----	0-4 4-18 18-54 54-64	20-30 40-50 40-50 ---	--- --- --- ---	6.1-6.5 5.6-6.5 5.6-6.5 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---
Gavel-----	0-12 12-27 27-37	10-20 15-25 ---	--- --- ---	6.1-7.3 6.1-7.3 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
394: Ulhalf-----	0-4 4-18 18-54 54-64	20-30 40-50 40-50 ---	--- --- --- ---	6.1-6.5 5.6-6.5 5.6-6.5 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---	0 0 0 ---
Southpac-----	0-7 7-35 35-61	20-30 40-50 40-50	--- --- ---	6.1-7.3 6.1-6.5 6.1-6.5	0 0 0	0 0 0	0 0 0	0 0 0
395: Verdico-----	0-3 3-29 29-60	5.0-20 35-50 ---	--- --- ---	6.6-7.3 6.1-7.8 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
Chalco-----	0-4 4-15 15-19	10-15 30-50 ---	--- --- ---	6.6-7.3 7.4-8.4 ---	0 0 ---	0 0 ---	0.0-2.0 0.0-2.0 ---	0 0 ---
396: Wespac-----	0-10 10-19 19-60	5.0-10 25-35 10-20	--- --- ---	7.4-8.4 7.9-9.0 7.9-8.4	0 1-3 1-5	0 0 0-1	0.0-4.0 4.0-8.0 8.0-16.0	0-13 13-60 60-100
397: Wespac-----	0-10 10-19 19-60	15-25 25-35 10-20	--- --- ---	7.4-8.4 7.9-9.0 7.9-8.4	0-1 1-3 1-5	0 0 0-1	0.0-4.0 4.0-8.0 8.0-16.0	0-13 13-60 60-100
Playas-----	0-6 6-60	15-40 15-40	--- ---	8.5-9.0 8.5-9.0	5-15 5-15	1-5 1-5	16.0-32.0 16.0-32.0	0 0
398: Weste-----	0-9 9-29 29-33	20-50 20-30 ---	--- --- ---	6.1-6.5 6.1-6.5 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
Baileycreek-----	0-8 8-26 26-30	20-50 20-30 ---	--- --- ---	6.1-6.5 6.1-6.5 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
Tahand-----	0-3 3-8 8-15 15-34 34-46 46-56	20-35 20-35 15-25 15-30 15-30 ---	--- --- --- --- --- ---	5.6-6.5 5.6-6.5 5.6-6.5 5.1-6.5 5.1-6.5 ---	0 0 0 0 0 ---	0 0 0 0 0 ---	0 0 0 0 0 ---	0 0 0 0 0 ---
399: Weste-----	0-14 14-24 24-34	20-50 20-30 ---	--- --- ---	6.1-6.5 6.1-6.5 ---	0 0 ---	0 0 ---	0 0 ---	0 0 ---
Rock outcrop-----	0-60	---	---	---	---	---	---	---

TABLE 19.--CHEMICAL PROPERTIES OF THE SOILS--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
400: Whitinger-----	0-6	25-35	---	6.1-7.3	0	0	0	0
	6-15	20-30	---	6.1-7.8	0	0	0	0
	15-26	20-30	---	6.1-7.8	0	0	0	0
	26-36	---	---	---	---	---	---	---
Devada-----	0-7	20-30	---	6.1-7.8	0	0	0	0
	7-15	32-48	---	6.1-7.8	0	0	0	0
	15-19	---	---	---	---	---	---	---
401: Whorled-----	0-5	20-30	---	6.1-6.5	0	0	0	0
	5-27	15-25	---	6.1-6.5	0	0	0	0
	27-31	---	---	---	---	---	---	---
Almanor-----	0-5	20-30	---	6.1-6.5	0	0	0	0
	5-17	15-25	---	6.1-6.5	0	0	0	0
	17-40	15-25	---	6.1-6.5	0	0	0	0
	40-50	---	---	---	---	---	---	---
402: Wylo-----	0-7	15-30	---	6.6-7.3	0	0	0.0-2.0	0
	7-11	25-45	---	6.6-7.8	0	0	0.0-2.0	0
	11-15	25-45	---	6.6-7.8	0	0	0.0-2.0	0
	15-19	---	---	---	---	---	---	---
Bucklake-----	0-8	10-20	---	6.1-7.3	0	0	0	0
	8-12	20-30	---	6.6-7.8	0	0	0	0
	12-24	25-40	---	6.6-7.8	0	0	0	0
	24-34	---	---	---	---	---	---	---
403: Wylo-----	0-7	15-30	---	6.6-7.3	0	0	0.0-2.0	0
	7-11	25-45	---	6.6-7.8	0	0	0.0-2.0	0
	11-15	25-45	---	6.6-7.8	0	0	0.0-2.0	0
	15-19	---	---	---	---	---	---	---
Diaz-----	0-3	10-25	---	6.6-7.8	0	0	0	0
	3-7	15-30	---	7.4-8.4	1-2	0	0.0-2.0	0
	7-25	30-45	---	7.4-8.4	1-2	0	0.0-2.0	0
	25-32	---	---	---	---	---	---	---
Brubeck-----	0-2	30-45	---	6.6-8.4	0-3	0	0.0-2.0	0
	2-32	30-45	---	6.6-8.4	0-8	0	0.0-2.0	0
	32-42	---	---	---	---	---	---	---
404: Wylo-----	0-7	15-30	---	6.6-7.3	0	0	0.0-2.0	0
	7-11	25-45	---	6.6-7.8	0	0	0.0-2.0	0
	11-15	25-45	---	6.6-7.8	0	0	0.0-2.0	0
	15-19	---	---	---	---	---	---	---
Pickup-----	0-10	15-25	---	6.6-7.3	0	0	0	0
	10-26	25-45	---	6.6-7.3	0	0	0.0-2.0	0
	26-30	---	---	---	---	---	---	---
Bucklake-----	0-8	10-20	---	6.1-7.3	0	0	0	0
	8-12	20-30	---	6.6-7.8	0	0	0	0
	12-24	25-40	---	6.6-7.8	0	0	0	0
	24-34	---	---	---	---	---	---	---
405: Xerolls-----	0-11	0.0-15	---	6.6-7.3	0	0	0.0-8.0	0
	11-60	0.0-20	---	6.6-7.3	0	0	0.0-8.0	0
Aquolls-----	0-7	10-15	---	6.6-7.3	0	0	0.0-8.0	0
	7-38	0.0-20	---	6.6-7.3	0	0	0.0-8.0	0
	38-60	0.0-20	---	6.6-7.3	0	0	0.0-8.0	0
406: Yobe-----	0-4	10-15	---	8.5-9.0	5-10	0	8.0-32.0	31-60
	4-60	11-16	---	7.9-9.0	5-10	0-1	2.0-8.0	13-40
407: Zorravista-----	0-4	0.0-5.0	---	7.9-8.4	1-5	0	0.0-4.0	0
	4-60	0.0-3.0	---	7.4-9.0	0-5	0	0.0-4.0	0
408: Zorravista-----	0-4	0.0-5.0	---	7.9-8.4	1-5	0	0.0-4.0	0</

TABLE 20.--SOIL FEATURES

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
101: Almanor-----	Bedrock (lithic)	40-60	---	---	Moderate	Moderate	Low
Whorled-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Inville-----	Bedrock (paralithic)	40-59	---	Weakly cemented	Moderate	Moderate	Moderate
102: Alomax, very stony sandy loam-----	Bedrock (lithic)	10-20	---	---	Moderate	Moderate	Low
Glean-----	Bedrock (lithic)	40-60	---	---	Moderate	Moderate	Low
Rock outcrop-----	Bedrock (lithic)	0-0	---	---	None	---	---
103: Anawalt-----	Bedrock (lithic)	12-20	---	---	Low	High	Low
Ninemile-----	Bedrock (lithic)	10-20	---	---	Low	Moderate	Low
104: Ardep-----	---	---	---	---	Moderate	High	Low
105: Ardep-----	---	---	---	---	Low	High	Low
106: Ardep-----	---	---	---	---	Moderate	High	Moderate
107: Ardep-----	---	---	---	---	Moderate	High	Low
108: Ardep-----	---	---	---	---	Moderate	High	Low
Wespac-----	---	---	---	---	Low	High	Low
Zorravista-----	---	---	---	---	Low	High	Low
109: Artray-----	---	---	---	---	High	Moderate	Low
110: Badenaugh-----	---	---	---	---	Moderate	Moderate	Moderate
111: Baileycreek-----	Bedrock (paralithic)	20-40	---	---	Moderate	Moderate	Low
Weste-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
112: Baileycreek-----	Bedrock (paralithic)	20-40	---	---	Moderate	Moderate	Low
Weste-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
113: Baileycreek-----	Bedrock (paralithic)	20-40	---	---	Moderate	Moderate	Low
Weste-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
114: Barnard-----	Duripan	20-40	4-17	Indurated	Moderate	High	Low
115: Beckwourth-----	---	---	---	---	Moderate	High	Low
Fordney-----	---	---	---	---	Low	High	Low
116: Bieber-----	Duripan	12-20	4-17	Indurated	Low	High	Low
117: Biscaro-----	Bedrock (paralithic)	24-40	---	---	Moderate	High	Low

TABLE 20.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
118: Biscaro-----	Bedrock (paralithic)	24-40	---	---	Moderate	High	Low
Calnat-----	Bedrock (paralithic)	20-40	---	---	Low	High	Moderate
119: Biscaro-----	Bedrock (paralithic)	24-40	---	---	Moderate	High	Low
Playas, silty clay----	---	---	---	---	None	High	High
120: Blickenstaff-----	---	---	---	---	Moderate	High	Low
121: Honeylake-----	---	---	---	---	Moderate	High	Low
122: Bobert-----	---	---	---	---	High	High	Low
123: Bobert-----	---	---	---	---	Moderate	High	Low
124: Bonta-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Moderate
125: Bonta-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Moderate
126: Bonta-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Moderate
127: Boulder Lake-----	---	---	---	---	Moderate	High	Low
128: Boulder Lake-----	---	---	---	---	Moderate	High	Low
129: Brubeck-----	Bedrock (lithic)	20-40	---	---	Moderate	High	Low
130: Brubeck-----	Bedrock (lithic)	20-40	---	---	Moderate	High	Low
131: Brubeck-----	Bedrock (lithic)	20-40	---	---	Moderate	High	Low
Diaz-----	Bedrock (lithic)	20-40	---	---	Low	High	Low
132: Brubeck-----	Bedrock (lithic)	20-40	---	---	Moderate	High	Low
Loomis-----	Bedrock (lithic)	8-14	---	---	Low	Moderate	Low
133: Buckbay-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Orhood-----	Bedrock (lithic)	14-20	---	---	Moderate	Moderate	Low
Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
134: Buckbay-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Orhood-----	Bedrock (lithic)	14-20	---	---	Moderate	Moderate	Low
Fredonyer-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Low
135: Bucklake-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Low
Corral-----	Bedrock (paralithic)	12-20	---	---	Low	Moderate	Low
Rubble land-----	Bedrock (lithic)	60-60	---	---	None	---	---
136: Bunanch-----	---	---	---	---	Moderate	Moderate	Low

TABLE 20.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
137: Cagwin-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Moderate
138: Cagwin-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Moderate
139: Calnat-----	Bedrock (paralithic)	20-40	---	---	Low	High	Moderate
140: Calneva-----	---	---	---	---	Moderate	High	High
141: Calneva-----	---	---	---	---	Moderate	High	High
Playas, silty clay----	---	---	---	---	None	High	High
142: Calpine-----	---	---	---	---	Moderate	Moderate	Moderate
143: Calpine-----	---	---	---	---	Moderate	Moderate	Moderate
144: Calpine-----	---	---	---	---	Moderate	Moderate	Moderate
145: Calpine-----	---	---	---	---	Moderate	Moderate	Moderate
146: Indiano-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Chalco-----	Bedrock (paralithic)	10-20	---	---	Low	High	Low
147: Capona-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Rock outcrop-----	Bedrock (lithic)	60-60	---	---	None	---	---
148: Cewat-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Low
149: Cewat-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Low
McConnel-----	---	---	---	---	Low	High	Moderate
Toulon-----	---	---	---	---	Low	High	Low
150: Chappuis-----	---	---	---	---	Low	High	Low
151: Chappuis-----	---	---	---	---	Low	High	Low
152: Chimney-----	Bedrock (paralithic)	60-60	---	---	Low	Moderate	Low
153: Chimney-----	Bedrock (paralithic)	60-80	---	---	Low	Moderate	Low
154: Chimney-----	Bedrock (paralithic)	60-60	---	---	Low	Moderate	Low
Janile-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Waterman-----	Bedrock (lithic)	10-20	---	---	Low	Moderate	Moderate
155: Chimney-----	Bedrock (paralithic)	60-80	---	---	Low	Moderate	Low
Janile-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Waterman-----	Bedrock (lithic)	10-20	---	---	Low	Moderate	Moderate

TABLE 20.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top In	Thickness In	Hardness		Uncoated steel	Concrete
156: Chimney-----	Bedrock (paralithic)	60-80	---	---	Low	Moderate	Low
Waterman-----	Bedrock (lithic)	10-20	---	---	Low	Moderate	Moderate
157: Chirpchatte-----	---	---	---	---	Moderate	Moderate	Low
158: Cleghorn-----	---	---	---	---	Low	High	Low
159: Cleghorn-----	---	---	---	---	Low	High	Low
160: Cochran-----	---	---	---	---	Moderate	Moderate	Low
161: Cochran-----	---	---	---	---	Moderate	Moderate	Low
162: Corral-----	Bedrock (paralithic)	15-20	---	---	Low	Moderate	Low
163: Corral-----	Bedrock (paralithic)	15-20	---	---	Low	Moderate	Low
164: Corral-----	Bedrock (paralithic)	12-20	---	---	Low	Moderate	Low
165: Corral-----	Bedrock (paralithic)	12-20	---	---	Low	Moderate	Low
166: Corral-----	Bedrock (paralithic)	12-20	---	---	Low	Moderate	Low
167: Corral-----	Bedrock (paralithic)	15-20	---	---	Low	Moderate	Low
Chalco-----	Bedrock (paralithic)	10-20	---	---	Low	High	Low
168: Corral-----	Bedrock (paralithic)	12-20	---	---	Low	Moderate	Low
Glenbrook-----	Bedrock (paralithic)	10-20	---	---	Low	Moderate	Low
169: Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
Brubeck-----	Bedrock (lithic)	20-40	---	---	Moderate	High	Low
170: Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
Bucklake-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Low
171: Devada-----	Duripan	12-20	---	---	Low	High	High
Fivesprings-----	Bedrock (lithic)	20-40	---	---	Low	High	Low
Rubble land-----	Bedrock (lithic)	60-60	---	---	None	---	---
172: Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
Gavel-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
173: Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
Gavel-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Whitinger-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low

TABLE 20.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
174: Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
Glean-----	Bedrock (lithic)	40-60	---	---	Moderate	Moderate	Low
Sumins-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
175: Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
Longcreek-----	Bedrock (lithic)	14-20	---	---	Low	Moderate	Low
176: Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
Orhood-----	Bedrock (lithic)	14-20	---	---	Moderate	Moderate	Low
Hart Camp-----	Bedrock (paralithic)	10-20	---	---	Moderate	Moderate	Low
177: Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
Papeek-----	Bedrock (paralithic)	20-40	---	---	Moderate	High	Low
Gavel-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
178: Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
Petescreek-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Fiddler-----	Bedrock (lithic)	20-40	---	---	Low	High	Low
179: Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
Rock outcrop-----	Bedrock (lithic)	60-60	---	---	None	---	---
180: Dotta-----	---	---	---	---	Moderate	Moderate	Moderate
181: Dotta-----	---	---	---	---	None	Moderate	Moderate
182: Dryvalley-----	---	---	---	---	Moderate	High	Low
183: Dryvalley-----	---	---	---	---	Moderate	High	Low
Playas, silty clay-----	---	---	---	---	None	High	High
184: Eaglelake-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Moderate
185: Eaglelake-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Moderate
Outland-----	Bedrock (paralithic)	20-40	---	---	Moderate	Moderate	Low
Waste-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
186: Eaglelake-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Moderate
Outland-----	Bedrock (paralithic)	20-40	---	---	Moderate	Moderate	Low
Waste-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
187: Eaglelake-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Moderate
Outland-----	Bedrock (paralithic)	20-40	---	---	Moderate	Moderate	Low
Waste-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low

TABLE 20.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
188: Eaglelake-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Moderate
Outland-----	Bedrock (paralithic)	20-40	---	---	Moderate	Moderate	Low
Weste-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
189: Easte-----	Bedrock (paralithic)	40-60	---	---	Low	Moderate	Moderate
Fredonyer-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Low
190: Easte-----	Bedrock (paralithic)	40-60	---	---	Low	Moderate	Moderate
Roop-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Moderate
191: Easte-----	Bedrock (paralithic)	40-60	---	---	Low	Moderate	Moderate
Roop-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Moderate
192: Epot-----	---	---	---	---	High	High	Low
Playas, silty clay----	---	---	---	---	None	High	High
193: Epot-----	---	---	---	---	High	High	Low
Ragtown-----	---	---	---	---	Low	High	High
Playas, silty clay----	---	---	---	---	None	High	High
194: Fiddler-----	Bedrock (lithic)	20-40	---	---	Low	High	Low
Gavel-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Rubble land-----	Bedrock (lithic)	60-60	---	---	None	---	---
195: Fiddler-----	Bedrock (lithic)	20-40	---	---	Low	High	Low
Gavel-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Rubble land-----	Bedrock (lithic)	60-60	---	---	None	---	---
196: Fiddler-----	Bedrock (lithic)	20-40	---	---	Low	High	Low
Madeline-----	Bedrock (lithic)	10-20	---	---	Low	Moderate	Low
197: Fiddler-----	Bedrock (lithic)	20-40	---	---	Low	High	Low
Orhood-----	Bedrock (lithic)	14-20	---	---	Moderate	Moderate	Low
Patescreek-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
198: Fivesprings-----	Bedrock (lithic)	20-40	---	---	Low	High	Low
Longcreek-----	Bedrock (lithic)	14-20	---	---	Low	Moderate	Low
199: Fivesprings-----	Bedrock (lithic)	20-40	---	---	Low	High	Low
Longcreek-----	Bedrock (lithic)	14-20	---	---	Low	Moderate	Low
200: Fivesprings-----	Bedrock (lithic)	20-40	---	---	Low	High	Low
Longcreek-----	Bedrock (lithic)	14-20	---	---	Low	Moderate	Low
Rubble land-----	Bedrock (lithic)	60-60	---	---	None	---	---

TABLE 20.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
201: Fivesprings-----	Bedrock (lithic)	20-40	---	---	Low	High	Low
Rubble land-----	Bedrock (lithic)	60-60	---	---	None	---	---
Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
202: Fivesprings-----	Bedrock (lithic)	20-40	---	---	Low	High	Low
Sumine-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
203: Fluvents-----	---	---	---	---	Moderate	High	Low
Riverwash-----	---	---	---	---	None	---	---
204: Fordney-----	---	---	---	---	Low	High	Low
205: Fordney-----	---	---	---	---	Low	High	Low
206: Fordney-----	---	---	---	---	Low	High	Low
207: Forgay-----	---	---	---	---	None	Moderate	Low
208: Forgay-----	---	---	---	---	None	Moderate	Low
209: Fortsage-----	---	---	---	---	High	High	Low
210: Fortsage-----	---	---	---	---	High	High	Low
211: Fraval-----	Bedrock (paralithic)	20-40	---	---	Moderate	Moderate	Moderate
Fredonyer-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Low
Said-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Moderate
212: Fraval-----	Bedrock (paralithic)	20-40	---	---	Moderate	Moderate	Moderate
Said-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Moderate
213: Fredonyer-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Low
Whitinger-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Orhood-----	Bedrock (lithic)	14-20	---	---	Moderate	Moderate	Low
214: Fulstone-----	Duripan	14-20	4-17	Indurated	Moderate	High	Low
Wylo-----	Bedrock (lithic)	14-20	---	---	Low	Moderate	Low
215: Galeppi-----	---	---	---	---	Moderate	Moderate	Low
216: Galeppi-----	---	---	---	---	Moderate	Moderate	Low
217: Galeppi-----	---	---	---	---	Moderate	Moderate	Low
Glenbrook-----	Bedrock (paralithic)	10-20	---	---	Low	Moderate	Low
218: Gavel-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low

TABLE 20.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top In	Thickness In	Hardness		Uncoated steel	Concrete
219: Gavel-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
220: Gerlach-----	---	---	---	---	Moderate	High	Low
221: Gerlach-----	---	---	---	---	Moderate	High	Low
222: Gerlach-----	---	---	---	---	Moderate	High	Low
Ravendale-----	---	---	---	---	Moderate	High	Low
223: Gerle-----	---	---	---	---	None	Moderate	Moderate
224: Gerle-----	---	---	---	---	None	Moderate	Moderate
225: Gerle-----	---	---	---	---	None	Moderate	Moderate
Gerle-----	---	---	---	---	None	Moderate	Moderate
Gerle-----	---	---	---	---	None	Moderate	Moderate
226: Glean-----	Bedrock (lithic)	40-60	---	---	Moderate	Moderate	Low
227: Glean-----	Bedrock (lithic)	40-60	---	---	Moderate	Moderate	Low
228: Glean-----	Bedrock (lithic)	40-60	---	---	Moderate	Moderate	Low
Searles-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
229: Glenbrook-----	Bedrock (paralithic)	10-20	---	---	Low	Moderate	Low
Graufels-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Rock outcrop-----	Bedrock (lithic)	60-60	---	---	None	---	---
230: Graufels-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Glenbrook-----	Bedrock (paralithic)	10-20	---	---	Low	Moderate	Low
231: Hagata-----	Bedrock (paralithic)	20-30	---	---	Moderate	High	Low
Playas-----	---	---	---	---	None	High	High
232: Hangtown-----	Bedrock (paralithic)	40-60	---	---	Low	Moderate	Moderate
233: Hart Camp-----	Bedrock (paralithic)	10-20	---	---	Moderate	Moderate	Low
Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
Tunnison-----	Bedrock (paralithic)	20-35	---	---	Moderate	High	Low
	Bedrock (lithic)	30-40	---	---			
234: Hart Camp-----	Bedrock (paralithic)	10-20	---	---	Moderate	Moderate	Low
Madeline-----	Bedrock (lithic)	10-20	---	---	Low	Moderate	Low

TABLE 20.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
235: Haypress-----	Bedrock (paralithic)	40-60	---	---	Low	Low	Low
Tanob-----	Bedrock (paralithic)	20-40	---	---	Moderate	Moderate	Moderate
236: Herjun-----	---	---	---	---	Moderate	High	Low
237: Herjun-----	---	---	---	---	Moderate	High	Low
238: Highrock, loamy fine sand-----	---	---	---	---	Low	High	Moderate
Mazuma-----	---	---	---	---	Low	High	High
Wespac-----	---	---	---	---	Low	High	Low
239: Highrock, loamy fine sand-----	---	---	---	---	Low	High	Moderate
Wespac, fine sandy loam	---	---	---	---	Low	High	Low
Zorravista, loamy sand-	---	---	---	---	Low	High	Low
240: Home Camp-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Newlands-----	Bedrock (lithic)	40-60	---	---	Moderate	Moderate	Low
241: Honlak-----	---	---	---	---	High	High	Low
242: Horsecamp-----	Bedrock (lithic)	40-60	---	---	Moderate	High	Low
243: Horsecamp-----	Bedrock (lithic)	40-60	---	---	Moderate	High	Low
Brubeck-----	Bedrock (lithic)	20-40	---	---	Moderate	High	Low
244: Horsecamp-----	Bedrock (lithic)	40-60	---	---	Moderate	High	Low
Hunnton-----	Duripan	22-30	4-17	---	Moderate	High	Low
245: Horsecamp, cobbly clay-	Bedrock (lithic)	40-60	---	---	Moderate	High	Low
Mahala-----	Bedrock (paralithic)	20-40	---	---	Low	High	Low
246: Humboldt-----	---	---	---	---	Moderate	High	Low
247: Humboldt-----	---	---	---	---	High	High	Low
248: Humboldt-----	---	---	---	---	High	High	Low
249: Humboldt-----	---	---	---	---	High	High	High
250: Hunnton-----	Duripan	22-30	4-17	Indurated	Moderate	High	Low
Shinnpeak-----	Duripan	13-20	4-17	Indurated	Low	Moderate	Low
251: Incy-----	---	---	---	---	Low	Moderate	Low
252: Incy-----	---	---	---	---	Low	Moderate	Low
253: Indiano-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Graufels-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low

TABLE 20.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
254: Indiano-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Searles-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
255: Indiano-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Searles-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
256: Indiano-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Zephan-----	Bedrock (paralithic)	26-42	---	---	Low	Moderate	Moderate
	Bedrock (lithic)	40-50	---	---			
Duco-----	Bedrock (lithic)	10-20	---	---	Moderate	Moderate	Low
257: Inville-----	---	---	---	---	Moderate	Moderate	Moderate
258: Jauriga-----	Bedrock (paralithic)	40-60	---	---	Low	Moderate	Low
259: Jauriga-----	Bedrock (paralithic)	40-60	---	---	Low	Moderate	Low
Buckbay-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Fredonyer-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Low
260: Keddie-----	---	---	---	---	None	Moderate	Low
261: Keddie-----	---	---	---	---	None	Moderate	Low
262: Ladd-----	---	---	---	---	Moderate	Moderate	Low
263: Ladd-----	---	---	---	---	Moderate	Moderate	Low
Bieber-----	Duripan	12-20	4-17	Indurated	Low	High	Low
264: Lakeview-----	---	---	---	---	Moderate	Moderate	Low
265: Lakeview-----	---	---	---	---	Moderate	Moderate	Low
266: Lasco-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Low
267: Lasco-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Low
268: Lasco-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Low
269: Lasco-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Low
Bonta-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Moderate
270: Lieberman-----	---	---	---	---	Moderate	High	Moderate
271: Lieberman-----	---	---	---	---	Moderate	High	Moderate
Herlong-----	Bedrock (lithic)	9-14	0-3	---	Low	High	Low
272: Lodico-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low

TABLE 20.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
273: Longcreek-----	Bedrock (lithic)	14-20	---	---	Low	Moderate	Low
Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
Rubble land-----	Bedrock (lithic)	60-60	---	---	None	---	---
274: Longcreek-----	Bedrock (lithic)	14-20	---	---	Low	Moderate	Low
Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
Rubble land-----	Bedrock (lithic)	60-60	---	---	None	---	---
275: Loomis-----	Bedrock (lithic)	8-14	---	---	Low	Moderate	Low
276: Loomis-----	Bedrock (lithic)	8-14	---	---	Low	Moderate	Low
Fivesprings-----	Bedrock (lithic)	20-40	---	---	Low	High	Low
277: Loomis-----	Bedrock (lithic)	8-14	---	---	Low	Moderate	Low
Rubble land-----	Bedrock (lithic)	60-60	---	---	None	---	---
278: Madeline-----	Bedrock (lithic)	10-20	---	---	Low	Moderate	Low
Glean-----	Bedrock (lithic)	40-60	---	---	Moderate	Moderate	Low
Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
279: Madeline-----	Bedrock (lithic)	10-20	---	---	Low	Moderate	Low
Sumine-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
280: Massack-----	---	---	---	---	None	Moderate	Low
281: Mazuma-----	---	---	---	---	Low	High	High
282: Mazuma-----	---	---	---	---	Low	High	High
283: McConnel-----	---	---	---	---	Low	High	Moderate
Mottsville-----	---	---	---	---	Low	Moderate	Moderate
284: McDermott-----	---	---	---	---	Moderate	High	Low
285: Modoc-----	Duripan	20-40	4-17	Indurated	Moderate	High	Low
Truax-----	---	40-60	4-17	Strongly cemented	Moderate	Moderate	Low
286: Mottsville-----	---	---	---	---	Low	Moderate	Moderate
287: Mottsville-----	---	---	---	---	Low	Moderate	Moderate
288: Mottsville-----	---	---	---	---	Low	Moderate	Moderate
289: Mottsville-----	---	---	---	---	Low	Moderate	Moderate
290: Mottsville-----	---	---	---	---	Low	Moderate	Moderate
291: Mottsville-----	---	---	---	---	Low	Moderate	Moderate
292: Mottsville-----	---	---	---	---	Low	Moderate	Moderate
Galeppi-----	---	---	---	---	Moderate	Moderate	Low
293: Mountmed-----	---	---	---	---	High	Moderate	Low

TABLE 20.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
294: Mountmed-----	---	---	---	---	High	Moderate	Low
295: Mountmed-----	---	---	---	---	High	Moderate	Low
296: Newlands-----	Bedrock (lithic)	40-60	---	---	Moderate	Moderate	Low
Hapgood-----	Bedrock (lithic)	40-60	---	---	Moderate	Moderate	Low
297: Ninemile-----	Bedrock (lithic)	10-20	---	---	Low	Moderate	Low
Home Camp-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Newlands-----	Bedrock (lithic)	40-60	---	---	Moderate	Moderate	Low
298: Ninemile-----	Bedrock (lithic)	10-20	---	---	Low	Moderate	Low
Petescreek-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Fiddler-----	Bedrock (lithic)	20-40	---	---	Low	High	Low
299: Ninemile-----	Bedrock (lithic)	10-20	---	---	Low	Moderate	Low
Weste-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
300: Observation-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Low
Searles-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Madeline-----	Bedrock (lithic)	10-20	---	---	Low	Moderate	Low
301: Observation-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Low
Searles-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Madeline-----	Bedrock (lithic)	10-20	---	---	Low	Moderate	Low
302: Orhood-----	Bedrock (lithic)	14-20	---	---	Moderate	Moderate	Low
303: Orr-----	---	---	---	---	Moderate	Moderate	Low
304: Outland-----	Bedrock (paralithic)	20-40	---	---	Moderate	Moderate	Low
305: Outland-----	Bedrock (paralithic)	20-40	---	---	Moderate	Moderate	Low
Outland-----	Bedrock (paralithic)	20-40	---	---	Moderate	Moderate	Low
306: Outland-----	Bedrock (paralithic)	20-40	---	---	Moderate	Moderate	Low
Penstock-----	Bedrock (paralithic)	61-73	---	---	Moderate	Moderate	Low
307: Outland-----	Bedrock (paralithic)	20-40	---	---	Moderate	Moderate	Low
Penstock-----	Bedrock (paralithic)	61-73	---	---	Moderate	Moderate	Low
308: Papeek-----	Bedrock (paralithic)	20-40	---	---	Moderate	High	Low
309: Papeek-----	Bedrock (paralithic)	20-40	---	---	Moderate	High	Low

TABLE 20.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top In	Thickness In	Hardness		Uncoated steel	Concrete
310: Penstock-----	Bedrock (paralithic)	61-73	---	---	Moderate	Moderate	Low
Deadwood-----	Bedrock (lithic)	10-20	---	---	Low	Moderate	Moderate
311: Penstock-----	Bedrock (paralithic)	61-73	---	---	Moderate	Moderate	Low
Deadwood-----	Bedrock (lithic)	10-20	---	---	Low	Moderate	Moderate
Rock outcrop-----	Bedrock (lithic)	60-60	---	---	None	---	---
312: Penstock-----	Bedrock (paralithic)	61-73	---	---	Moderate	Moderate	Low
Scaribou, stony loam---	---	---	---	---	Moderate	Moderate	Low
313: Penstock-----	Bedrock (paralithic)	61-73	---	---	Moderate	Moderate	Low
Scaribou, stony loam---	---	---	---	---	Moderate	Moderate	Low
314: Peguop, very cobbly loam-----	Bedrock (lithic)	50-60	---	---	Moderate	Moderate	Low
Observation-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Low
315: Peguop-----	Bedrock (lithic)	50-60	---	---	Moderate	Moderate	Low
Observation-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Low
316: Petescreek-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Bucklake-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Low
Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
317: Petescreek-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
Searles-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
318: Petescreek-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
Searles-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
319: Petescreek-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Fredonyer-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Low
320: Petescreek-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Fredonyer-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Low
321: Petescreek-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Orhood-----	Bedrock (lithic)	14-20	---	---	Moderate	Moderate	Low
Fredonyer-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Low
322: Petescreek-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Searles-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low

TABLE 20.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
323: Petescreek-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Searles-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Orhood-----	Bedrock (lithic)	14-20	---	---	Moderate	Moderate	Low
324: Pit-----	---	---	---	---	High	High	Low
325: Pits-----	---	---	---	---	Low	Low	Low
Dumps-----	---	---	---	---	Low	Low	Low
326: Playas, silty clay----	---	---	---	---	None	High	High
327: Plinco, gravelly sandy loam-----	---	---	---	---	Moderate	Moderate	Low
328: Plinco-----	---	---	---	---	Moderate	Moderate	Low
329: Puls-----	Duripan	10-20	4-17	Indurated	Low	Moderate	Moderate
	Bedrock (lithic)	11-40	---	---			
330: Puls-----	Duripan	10-20	4-17	Indurated	Low	Moderate	Moderate
	Bedrock (lithic)	11-40	---	---			
Ninekar-----	Bedrock (lithic)	20-40	---	---	Moderate	High	Low
331: Puls-----	Duripan	10-20	4-17	Indurated	Low	Moderate	Moderate
	Bedrock (lithic)	11-40	---	---			
Tunnison-----	Bedrock (paralithic)	20-35	---	---	Moderate	High	Low
	Bedrock (lithic)	30-40	---	---			
332: Quartzburg-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Moderate
Scaribou-----	---	---	---	---	Moderate	Moderate	Low
333: Ravendale-----	---	---	---	---	Moderate	High	Low
334: Ravendale-----	---	---	---	---	Moderate	High	Low
335: Ravendale-----	---	---	---	---	Moderate	High	Low
336: Ravendale-----	---	---	---	---	Moderate	High	Low
337: Redriver-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Moderate
Gerle-----	---	---	---	---	None	Moderate	Moderate
338: Redriver-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Moderate
Waste-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
339: Redriver, stony sandy loam-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Moderate
Woodwest-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
Wafila-----	Bedrock (paralithic)	40-70	---	---	Low	Moderate	Low
340: Rices-----	---	---	---	---	High	High	Low

TABLE 20.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top In	Thickness In	Hardness		Uncoated steel	Concrete
341: Rose Creek-----	---	---	---	---	High	High	Low
342: Rose Creek-----	---	---	---	---	High	High	Low
343: Rubble land-----	Bedrock (lithic)	60-60	---	---	None	---	---
Fiddler-----	Bedrock (lithic)	20-40	---	---	Low	High	Low
344: Rubble land-----	Bedrock (lithic)	60-60	---	---	None	---	---
Longcreek-----	Bedrock (lithic)	14-20	---	---	Low	Moderate	Low
Fivesprings-----	Bedrock (lithic)	20-40	---	---	Low	High	Low
345: Rubble land-----	Bedrock (lithic)	60-60	---	---	None	---	---
Rock outcrop-----	Bedrock (lithic)	60-60	---	---	None	---	---
346: Rubble land-----	Bedrock (lithic)	60-60	---	---	None	---	---
Waste-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
347: Saddlerock-----	---	---	---	---	High	High	Low
348: Saddlerock-----	---	---	---	---	Moderate	High	Low
349: Saddlerock-----	---	---	---	---	Moderate	High	Low
350: Saddlerock-----	---	---	---	---	Moderate	High	Low
Yobe-----	---	---	---	---	High	High	Low
Termo-----	---	---	---	---	Moderate	High	Moderate
351: Said-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Moderate
352: Said-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Moderate
Fraval-----	Bedrock (paralithic)	20-40	---	---	Moderate	Moderate	Moderate
353: Said-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Moderate
Ninemile-----	Bedrock (lithic)	10-20	---	---	Low	Moderate	Low
354: Scaribou-----	---	---	---	---	Moderate	Moderate	Low
355: Scaribou-----	---	---	---	---	Moderate	Moderate	Low
Penstock-----	Bedrock (paralithic)	61-73	---	---	Moderate	Moderate	Low
Rock outcrop-----	Bedrock (lithic)	60-60	---	---	None	---	---
356: Searles-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
Fivesprings-----	Bedrock (lithic)	20-40	---	---	Low	High	Low
357: Searles-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
Rubble land-----	Bedrock (lithic)	60-60	---	---	None	---	---

TABLE 20.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
358: Searles-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Glean-----	Bedrock (lithic)	40-60	---	---	Moderate	Moderate	Low
359: Searles-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Glean-----	Bedrock (lithic)	40-60	---	---	Moderate	Moderate	Low
360: Searles-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Orhood-----	Bedrock (lithic)	14-20	---	---	Moderate	Moderate	Low
Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
361: Shinnpeak, very cobbly sandy loam-----	Duripan	13-20	4-17	Indurated	Low	Moderate	Low
362: Smocreek-----	---	---	---	---	Moderate	High	Low
363: Smocreek, silt loam----	---	---	---	---	Moderate	High	Low
364: Southpac-----	---	---	---	---	Moderate	Moderate	Low
365: Springmeyer-----	---	---	---	---	Moderate	High	Low
366: Springmeyer-----	---	---	---	---	Moderate	High	Low
367: Stacy-----	---	---	---	---	Low	High	Low
368: Standish-----	---	---	---	---	Low	High	Low
369: Stiles-----	Bedrock (paralithic)	20-40	---	---	Low	High	Low
370: Sumine-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Softscrabble, stony fine sandy loam-----	Bedrock (paralithic)	60-79	---	---	Moderate	Moderate	Low
Hutchley-----	Bedrock (lithic)	10-20	---	---	Moderate	Moderate	Low
371: Susanville-----	---	---	---	---	None	High	Low
372: Susanville-----	---	---	---	---	None	High	Low
Smocreek-----	---	---	---	---	Moderate	High	Low
373: Swainow-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Moderate
Almanor-----	Bedrock (lithic)	40-60	---	---	Moderate	Moderate	Low
Tahand-----	Bedrock (paralithic)	40-60	---	---	Moderate	High	High
374: Swainow, very stony sandy loam-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Moderate
Almanor-----	Bedrock (lithic)	40-60	---	---	Moderate	Moderate	Low
375: Swainow-----	Bedrock (lithic)	40-60	---	---	Moderate	Moderate	Moderate
Redriver-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Moderate

TABLE 20.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top In	Thickness In	Hardness		Uncoated steel	Concrete
376: Swainow-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Moderate
Tahand-----	Bedrock (paralithic)	40-60	---	---	Moderate	High	High
377: Tahand-----	Bedrock (paralithic)	40-60	---	---	Moderate	High	High
Baileycreek-----	Bedrock (paralithic)	20-40	---	---	Moderate	Moderate	Low
378: Tahand-----	Bedrock (paralithic)	40-60	---	---	Moderate	High	High
Swainow-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Moderate
Almanor-----	Bedrock (lithic)	40-60	---	---	Moderate	Moderate	Low
379: Termo-----	---	---	---	---	Moderate	High	Moderate
Biscaro-----	Bedrock (paralithic)	24-40	---	---	Moderate	High	Low
380: Termo-----	---	---	---	---	Moderate	High	Moderate
Playas-----	---	---	---	---	None	High	High
381: Termo-----	---	---	---	---	Moderate	High	Moderate
Springmeyer-----	---	---	---	---	Moderate	High	Low
Smocreek-----	---	---	---	---	Moderate	High	Low
382: Toiyabe-----	Bedrock (paralithic)	10-20	---	---	Low	Moderate	Moderate
Lasco-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Low
Quartzsburg-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Moderate
383: Toiyabe-----	Bedrock (paralithic)	10-20	---	---	Low	Moderate	Moderate
Lasco-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Low
384: Torriorthents-----	---	---	---	---	High	High	Low
Zorravista-----	---	---	---	---	Low	High	Low
385: Truax-----		41-52	---	Strongly cemented	Moderate	Moderate	Low
386: Truckee-----	---	---	---	---	High	High	Low
387: Truckee-----	---	---	---	---	High	High	Low
Humboldt-----	---	---	---	---	High	High	Low
388: Tunnison-----	Bedrock (paralithic)	20-35	---	---	Moderate	High	Low
	Bedrock (lithic)	30-40	---	---			

TABLE 20.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top In	Thickness In	Hardness		Uncoated steel	Concrete
389: Tunnison-----	Bedrock (paralithic)	20-35	---	---	Moderate	High	Low
	Bedrock (lithic)	30-40	---	---			
Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
390: Tunnison-----	Bedrock (paralithic)	20-35	---	---	Moderate	High	Low
	Bedrock (lithic)	30-40	---	---			
Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
391: Ulhalf-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Low
392: Ulhalf-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Low
393: Ulhalf-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Low
Gavel-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
394: Ulhalf-----	Bedrock (paralithic)	40-60	---	---	Moderate	Moderate	Low
Southpac-----	---	---	---	---	Moderate	Moderate	Low
395: Verdico-----	Bedrock (paralithic)	20-40	---	---	Low	Moderate	Low
Chalco-----	Bedrock (paralithic)	10-20	---	---	Low	High	Low
396: Wespac-----	---	---	---	---	Low	High	Low
397: Wespac-----	---	---	---	---	Low	High	Low
Playas-----	---	---	---	---	None	High	High
398: Weste-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Baileycreek-----	Bedrock (paralithic)	20-40	---	---	Moderate	Moderate	Low
Tahand-----	Bedrock (paralithic)	40-60	---	---	Moderate	High	High
399: Weste-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Rock outcrop-----	Bedrock (lithic)	60-60	---	---	None	---	---
400: Whitinger-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Devada-----	Bedrock (lithic)	12-20	---	---	Low	Moderate	Low
401: Whorled-----	Bedrock (lithic)	20-40	---	---	Moderate	Moderate	Low
Almanor-----	Bedrock (lithic)	40-60	---	---	Moderate	Moderate	Low
402: Wylo-----	Bedrock (lithic)	14-20	---	---	Low	Moderate	Low
Bucklake-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Low

TABLE 20.--SOIL FEATURES--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
403: Wylo-----	Bedrock (lithic)	14-20	---	---	Low	Moderate	Low
Diaz-----	Bedrock (lithic)	20-40	---	---	Low	High	Low
Brubeck-----	Bedrock (lithic)	20-40	---	---	Moderate	High	Low
404: Wylo-----	Bedrock (lithic)	14-20	---	---	Low	Moderate	Low
Pickup-----	Bedrock (lithic)	20-40	---	---	Low	High	Low
Bucklake-----	Bedrock (lithic)	20-40	---	---	Low	Moderate	Low
405: Xerolls-----	---	---	---	---	Low	Moderate	Low
Aquolls-----	---	---	---	---	Low	Moderate	Low
406: Yobe-----	---	---	---	---	High	High	Low
407: Zorravista-----	---	---	---	---	Low	High	Low
408: Zorravista-----	---	---	---	---	Low	High	Low
409: Water-----	---	---	---	---	---	---	---

TABLE 21.--WATER FEATURES

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
101: Almanor-----	B	Jan-Dec	---	---	---	---	None	---	None
Whorled-----	C	Jan-Dec	---	---	---	---	None	---	None
Inville-----	B	Jan-Dec	---	---	---	---	None	---	None
102: Alomax, very stony sandy loam-----	D	Jan-Dec	---	---	---	---	None	---	None
Glean-----	B	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
103: Anawalt-----	D	Jan-Dec	---	---	---	---	None	---	None
Ninemile-----	D	Jan-Dec	---	---	---	---	None	---	None
104: Ardep-----	B	Jan-Dec	---	---	---	---	None	---	None
105: Ardep-----	C	May	1.5-3.5	3.3-5.0	---	---	None	---	None
		June	1.5-3.5	3.3-5.0	---	---	None	---	None
		July	1.5-3.5	3.3-5.0	---	---	None	---	None
		August	1.5-3.5	3.3-5.0	---	---	None	---	None
106: Ardep-----	B	Jan-Dec	---	---	---	---	None	---	None
107: Ardep-----	B	Jan-Dec	---	---	---	---	None	---	None
108: Ardep-----	B	Jan-Dec	---	---	---	---	None	---	None
Wespac-----	D	Jan-Dec	---	---	---	---	None	---	None
Zorravista-----	A	Jan-Dec	---	---	---	---	None	---	None
109: Artray-----	D	January	0.0-1.5	>6.0	---	---	None	---	None
		February	0.0-1.5	>6.0	---	---	None	---	None
		March	0.0-1.5	>6.0	---	---	None	---	None
		April	0.0-1.5	>6.0	---	---	None	---	None
		May	0.0-1.5	>6.0	---	---	None	---	None
		June	0.0-1.5	>6.0	---	---	None	---	None
		July	0.0-1.5	>6.0	---	---	None	---	None
		October	0.0-1.5	>6.0	---	---	None	---	None
		November	0.0-1.5	>6.0	---	---	None	---	None
		December	0.0-1.5	>6.0	---	---	None	---	None
110: Badenaugh-----	B	Jan-Dec	---	---	---	---	None	---	None
111: Baileycreek-----	C	Jan-Dec	---	---	---	---	None	---	None
Weste-----	C	Jan-Dec	---	---	---	---	None	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
112: Baileycreek-----	C	Jan-Dec	---	---	---	---	None	---	None
Weste-----	C	Jan-Dec	---	---	---	---	None	---	None
113: Baileycreek-----	C	Jan-Dec	---	---	---	---	None	---	None
Weste-----	C	Jan-Dec	---	---	---	---	None	---	None
114: Barnard-----	C	Jan-Dec	---	---	---	---	None	---	None
115: Beckwourth-----	C	January	---	---	---	---	None	Brief	Occasional
		February	---	---	---	---	None	Brief	Occasional
		March	3.0-5.0	>6.0	---	---	None	Brief	Occasional
		April	3.0-5.0	>6.0	---	---	None	Brief	Occasional
		May	3.0-5.0	>6.0	---	---	None	Brief	Occasional
Fordney-----	A	Jan-Dec	---	---	---	---	None	---	None
116: Bisber-----	D	Jan-Dec	---	---	---	---	None	---	None
117: Biscaro-----	D	January	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		April	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
118: Biscaro-----	D	January	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		April	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
Calnat-----	C	Jan-Dec	---	---	---	---	None	---	None
119: Biscaro-----	D	January	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		April	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
Playas, silty clay-----	D	February	---	---	0.0-1.0	Long	Frequent	---	None
		March	---	---	0.0-1.0	Long	Frequent	---	None
		April	---	---	0.0-1.0	Long	Frequent	---	None
		May	---	---	0.0-1.0	Long	Frequent	---	None
		June	---	---	0.0-1.0	Long	Frequent	---	None
		July	---	---	0.0-1.0	Long	Frequent	---	None
		August	---	---	0.0-1.0	Long	Frequent	---	None
		September	---	---	0.0-1.0	Long	Frequent	---	None
120: Blickensstaff-----	B	March	3.5-5.0	>6.0	---	---	None	---	None
		April	3.5-5.0	>6.0	---	---	None	---	None
		May	3.5-5.0	>6.0	---	---	None	---	None
121: Honeylake-----	B	January	---	---	---	---	None	---	Rare
		February	---	---	---	---	None	---	Rare
		March	2.0-3.3	>6.0	---	---	None	---	Rare
		April	2.0-3.3	>6.0	---	---	None	---	Rare
		May	2.0-3.3	>6.0	---	---	None	---	Rare
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
		September	---	---	---	---	None	---	Rare
		October	---	---	---	---	None	---	Rare
		November	---	---	---	---	None	---	Rare
		December	---	---	---	---	None	---	Rare

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
122: Robert-----	C	January	3.5-5.0	>6.0	---	---	None	---	None
		February	3.5-5.0	>6.0	---	---	None	---	None
		March	3.5-5.0	>6.0	---	---	None	---	None
		April	3.5-5.0	>6.0	---	---	None	---	None
		December	3.5-5.0	>6.0	---	---	None	---	None
123: Robert-----	B	Jan-Dec	---	---	---	---	None	---	None
124: Bonta-----	B	Jan-Dec	---	---	---	---	None	---	None
125: Bonta-----	B	Jan-Dec	---	---	---	---	None	---	None
126: Bonta-----	B	Jan-Dec	---	---	---	---	None	---	None
127: Boulder Lake-----	D	January	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		April	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		May	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		June	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		December	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
128: Boulder Lake-----	D	January	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		April	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		May	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		June	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		December	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
129: Brubeck-----	D	Jan-Dec	---	---	---	---	None	---	None
130: Brubeck-----	D	Jan-Dec	---	---	---	---	None	---	None
131: Brubeck-----	D	Jan-Dec	---	---	---	---	None	---	None
Diaz-----	C	Jan-Dec	---	---	---	---	None	---	None
132: Brubeck-----	D	Jan-Dec	---	---	---	---	None	---	None
Loomis-----	D	Jan-Dec	---	---	---	---	None	---	None
133: Buckbay-----	C	Jan-Dec	---	---	---	---	None	---	None
Orhood-----	D	Jan-Dec	---	---	---	---	None	---	None
Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
134: Buckbay-----	C	Jan-Dec	---	---	---	---	None	---	None
Orhood-----	D	Jan-Dec	---	---	---	---	None	---	None
Fredonyer-----	C	Jan-Dec	---	---	---	---	None	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
135: Bucklake-----	C	Jan-Dec	---	---	---	---	None	---	None
Corral-----	C	Jan-Dec	---	---	---	---	None	---	None
Rubble land-----	A	Jan-Dec	---	---	---	---	None	---	None
136: Bunanch-----	C	Jan-Dec	---	---	---	---	None	---	None
137: Cagwin-----	B	Jan-Dec	---	---	---	---	None	---	None
138: Cagwin-----	B	Jan-Dec	---	---	---	---	None	---	None
139: Calnat-----	C	Jan-Dec	---	---	---	---	None	---	None
140: Calneva-----	C	Jan-Dec	---	---	---	---	None	---	None
141: Calneva-----	C	Jan-Dec	---	---	---	---	None	---	None
Playas, silty clay-----	D	February	---	---	0.0-1.0	Long	Frequent	---	None
		March	---	---	0.0-1.0	Long	Frequent	---	None
		April	---	---	0.0-1.0	Long	Frequent	---	None
		May	---	---	0.0-1.0	Long	Frequent	---	None
		June	---	---	0.0-1.0	Long	Frequent	---	None
		July	---	---	0.0-1.0	Long	Frequent	---	None
		August	---	---	0.0-1.0	Long	Frequent	---	None
		September	---	---	0.0-1.0	Long	Frequent	---	None
142: Calpine-----	B	Jan-Dec	---	---	---	---	None	---	None
143: Calpine-----	B	Jan-Dec	---	---	---	---	None	---	None
144: Calpine-----	B	Jan-Dec	---	---	---	---	None	---	None
145: Calpine-----	B	Jan-Dec	---	---	---	---	None	---	None
146: Indiano-----	C	Jan-Dec	---	---	---	---	None	---	None
Chalco-----	D	Jan-Dec	---	---	---	---	None	---	None
147: Capona-----	C	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
148: Cewat-----	C	Jan-Dec	---	---	---	---	None	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
149: Cewat-----	C	Jan-Dec	---	---	---	---	None	---	None
McConnel-----	B	Jan-Dec	---	---	---	---	None	---	None
Toulon-----	B	Jan-Dec	---	---	---	---	None	---	None
150: Chappuis-----	C	January	4.0-5.0	>6.0	---	---	None	---	None
		February	4.0-5.0	>6.0	---	---	None	---	None
		March	4.0-5.0	>6.0	---	---	None	---	None
		April	4.0-5.0	>6.0	---	---	None	---	None
151: Chappuis-----	C	January	4.0-5.0	>6.0	---	---	None	---	None
		February	4.0-5.0	>6.0	---	---	None	---	None
		March	4.0-5.0	>6.0	---	---	None	---	None
		April	4.0-5.0	>6.0	---	---	None	---	None
152: Chimney-----	A	Jan-Dec	---	---	---	---	None	---	None
153: Chimney-----	A	Jan-Dec	---	---	---	---	None	---	None
154: Chimney-----	A	Jan-Dec	---	---	---	---	None	---	None
Janile-----	C	Jan-Dec	---	---	---	---	None	---	None
Waterman-----	D	Jan-Dec	---	---	---	---	None	---	None
155: Chimney-----	A	Jan-Dec	---	---	---	---	None	---	None
Janile-----	C	Jan-Dec	---	---	---	---	None	---	None
Waterman-----	D	Jan-Dec	---	---	---	---	None	---	None
156: Chimney-----	A	Jan-Dec	---	---	---	---	None	---	None
Waterman-----	D	Jan-Dec	---	---	---	---	None	---	None
157: Chirpchatte-----	B	January	5.0-6.0	>6.0	---	---	None	---	None
		February	5.0-6.0	>6.0	---	---	None	---	None
		March	5.0-6.0	>6.0	---	---	None	---	None
		April	5.0-6.0	>6.0	---	---	None	---	None
		December	5.0-6.0	>6.0	---	---	None	---	None
158: Cleghorn-----	C	Jan-Dec	---	---	---	---	None	---	None
159: Cleghorn-----	C	Jan-Dec	---	---	---	---	None	---	None
160: Cochran-----	C	Jan-Dec	---	---	---	---	None	---	None
161: Cochran-----	C								

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
		Jan-Dec	---	---	---	---	None	---	None
162: Corral-----	C	Jan-Dec	---	---	---	---	None	---	None
163: Corral-----	C	Jan-Dec	---	---	---	---	None	---	None
164: Corral-----	C	Jan-Dec	---	---	---	---	None	---	None
165: Corral-----	C	Jan-Dec	---	---	---	---	None	---	None
166: Corral-----	C	Jan-Dec	---	---	---	---	None	---	None
167: Corral-----	C	Jan-Dec	---	---	---	---	None	---	None
Chalco-----	D	Jan-Dec	---	---	---	---	None	---	None
168: Corral-----	C	Jan-Dec	---	---	---	---	None	---	None
Glenbrook-----	D	Jan-Dec	---	---	---	---	None	---	None
169: Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
Brubeck-----	D	Jan-Dec	---	---	---	---	None	---	None
170: Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
Bucklake-----	C	Jan-Dec	---	---	---	---	None	---	None
171: Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
Fivesprings-----	C	Jan-Dec	---	---	---	---	None	---	None
Rubble land-----	A	Jan-Dec	---	---	---	---	None	---	None
172: Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
Gavel-----	B	Jan-Dec	---	---	---	---	None	---	None
173: Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
Gavel-----	B	Jan-Dec	---	---	---	---	None	---	None
Whitinger-----	C	Jan-Dec	---	---	---	---	None	---	None
174: Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
Glean-----	B	Jan-Dec	---	---	---	---	None	---	None
Sumine-----	C	Jan-Dec	---	---	---	---	None	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
175: Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
Longcreek-----	D	Jan-Dec	---	---	---	---	None	---	None
176: Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
Orhood-----	D	Jan-Dec	---	---	---	---	None	---	None
Hart Camp-----	D	Jan-Dec	---	---	---	---	None	---	None
177: Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
Papeek-----	D	Jan-Dec	---	---	---	---	None	---	None
Gavel-----	E	Jan-Dec	---	---	---	---	None	---	None
178: Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
Petescreek-----	C	Jan-Dec	---	---	---	---	None	---	None
Fiddler-----	C	Jan-Dec	---	---	---	---	None	---	None
179: Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
180: Dotta-----	B	Jan-Dec	---	---	---	---	None	---	None
181: Dotta-----	B	March	3.5-5.0	>6.0	---	---	None	---	None
		April	3.5-5.0	>6.0	---	---	None	---	None
		May	3.5-5.0	>6.0	---	---	None	---	None
182: Dryvalley-----	C	January	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
183: Dryvalley-----	C	January	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
Playas, silty clay-----	D	February	---	---	0.0-1.0	Long	Frequent	---	None
		March	---	---	0.0-1.0	Long	Frequent	---	None
		April	---	---	0.0-1.0	Long	Frequent	---	None
		May	---	---	0.0-1.0	Long	Frequent	---	None
		June	---	---	0.0-1.0	Long	Frequent	---	None
		July	---	---	0.0-1.0	Long	Frequent	---	None
		August	---	---	0.0-1.0	Long	Frequent	---	None
		September	---	---	0.0-1.0	Long	Frequent	---	None
184: Eaglelake-----	B	Jan-Dec	---	---	---	---	None	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
185: Eaglelake-----	B	Jan-Dec	---	---	---	---	None	---	None
Outland-----	B	Jan-Dec	---	---	---	---	None	---	None
Waste-----	C	Jan-Dec	---	---	---	---	None	---	None
186: Eaglelake-----	B	Jan-Dec	---	---	---	---	None	---	None
Outland-----	B	Jan-Dec	---	---	---	---	None	---	None
Waste-----	C	Jan-Dec	---	---	---	---	None	---	None
187: Eaglelake-----	B	Jan-Dec	---	---	---	---	None	---	None
Outland-----	B	Jan-Dec	---	---	---	---	None	---	None
Waste-----	C	Jan-Dec	---	---	---	---	None	---	None
188: Eaglelake-----	B	Jan-Dec	---	---	---	---	None	---	None
Outland-----	B	Jan-Dec	---	---	---	---	None	---	None
Waste-----	C	Jan-Dec	---	---	---	---	None	---	None
189: Easte-----	B	Jan-Dec	---	---	---	---	None	---	None
Fredonyer-----	C	Jan-Dec	---	---	---	---	None	---	None
190: Easte-----	B	Jan-Dec	---	---	---	---	None	---	None
Roop-----	B	Jan-Dec	---	---	---	---	None	---	None
191: Easte-----	B	Jan-Dec	---	---	---	---	None	---	None
Roop-----	B	Jan-Dec	---	---	---	---	None	---	None
192: Epot-----	B	Jan-Dec	---	---	---	---	None	---	None
Playas, silty clay-----	D	February	---	---	0.0-1.0	Long	Frequent	---	None
		March	---	---	0.0-1.0	Long	Frequent	---	None
		April	---	---	0.0-1.0	Long	Frequent	---	None
		May	---	---	0.0-1.0	Long	Frequent	---	None
		June	---	---	0.0-1.0	Long	Frequent	---	None
		July	---	---	0.0-1.0	Long	Frequent	---	None
		August	---	---	0.0-1.0	Long	Frequent	---	None
		September	---	---	0.0-1.0	Long	Frequent	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
193: Epot-----	B	Jan-Dec	---	---	---	---	None	---	None
Ragtown-----	C	Jan-Dec	---	---	---	---	None	---	None
Playas, silty clay-----	D	February	---	---	0.0-1.0	Long	Frequent	---	None
		March	---	---	0.0-1.0	Long	Frequent	---	None
		April	---	---	0.0-1.0	Long	Frequent	---	None
		May	---	---	0.0-1.0	Long	Frequent	---	None
		June	---	---	0.0-1.0	Long	Frequent	---	None
		July	---	---	0.0-1.0	Long	Frequent	---	None
		August	---	---	0.0-1.0	Long	Frequent	---	None
		September	---	---	0.0-1.0	Long	Frequent	---	None
194: Fiddler-----	C	Jan-Dec	---	---	---	---	None	---	None
Gavel-----	B	Jan-Dec	---	---	---	---	None	---	None
Rubble land-----	A	Jan-Dec	---	---	---	---	None	---	None
195: Fiddler-----	C	Jan-Dec	---	---	---	---	None	---	None
Gavel-----	B	Jan-Dec	---	---	---	---	None	---	None
Rubble land-----	A	Jan-Dec	---	---	---	---	None	---	None
196: Fiddler-----	C	Jan-Dec	---	---	---	---	None	---	None
Madeline-----	D	Jan-Dec	---	---	---	---	None	---	None
197: Fiddler-----	C	Jan-Dec	---	---	---	---	None	---	None
Orhood-----	D	Jan-Dec	---	---	---	---	None	---	None
Petescreek-----	C	Jan-Dec	---	---	---	---	None	---	None
198: Fivesprings-----	C	Jan-Dec	---	---	---	---	None	---	None
Longcreek-----	D	Jan-Dec	---	---	---	---	None	---	None
199: Fivesprings-----	C	Jan-Dec	---	---	---	---	None	---	None
Longcreek-----	D	Jan-Dec	---	---	---	---	None	---	None
200: Fivesprings-----	C	Jan-Dec	---	---	---	---	None	---	None
Longcreek-----	D	Jan-Dec	---	---	---	---	None	---	None
Rubble land-----	A	Jan-Dec	---	---	---	---	None	---	None
201: Fivesprings-----	C	Jan-Dec	---	---	---	---	None	---	None
Rubble land-----	A								

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
202: Fivesprings-----	C	Jan-Dec	---	---	---	---	None	---	None
Sumine-----	C	Jan-Dec	---	---	---	---	None	---	None
203: Fluvents-----	D	January	3.0-5.0	>6.0	---	---	None	---	None
		February	3.0-5.0	>6.0	---	---	None	---	None
		March	3.0-5.0	>6.0	---	---	None	Very long	Frequent
		April	3.0-5.0	>6.0	---	---	None	Very long	Frequent
		May	3.0-5.0	>6.0	---	---	None	Very long	Frequent
		June	3.0-5.0	>6.0	---	---	None	---	None
		December	3.0-5.0	>6.0	---	---	None	---	None
Riverwash-----	D	January	0.0-2.0	>6.0	---	---	None	Very long	Frequent
		February	0.0-2.0	>6.0	---	---	None	Very long	Frequent
		March	0.0-2.0	>6.0	---	---	None	Very long	Frequent
		April	0.0-2.0	>6.0	---	---	None	Very long	Frequent
		May	0.0-2.0	>6.0	---	---	None	Very long	Frequent
		June	0.0-2.0	>6.0	---	---	None	Very long	Frequent
		July	0.0-2.0	>6.0	---	---	None	Very long	Frequent
		August	0.0-2.0	>6.0	---	---	None	---	None
		September	0.0-2.0	>6.0	---	---	None	---	None
		October	0.0-2.0	>6.0	---	---	None	Very long	Frequent
		November	0.0-2.0	>6.0	---	---	None	Very long	Frequent
		December	0.0-2.0	>6.0	---	---	None	Very long	Frequent
204: Fordney-----	A	Jan-Dec	---	---	---	---	None	---	None
205: Fordney-----	A	Jan-Dec	---	---	---	---	None	---	None
206: Fordney-----	C	April	3.0-6.0	>6.0	---	---	None	---	None
		May	3.0-6.0	>6.0	---	---	None	---	None
		June	3.0-6.0	>6.0	---	---	None	---	None
		July	3.0-6.0	>6.0	---	---	None	---	None
207: Forgay-----	B	January	3.5-5.0	>6.0	---	---	None	---	None
		February	3.5-5.0	>6.0	---	---	None	---	None
		March	3.5-5.0	>6.0	---	---	None	---	None
		April	3.5-5.0	>6.0	---	---	None	---	None
		May	3.5-5.0	>6.0	---	---	None	---	None
		December	3.5-5.0	>6.0	---	---	None	---	None
208: Forgay-----	B	Jan-Dec	---	---	---	---	None	---	None
209: Fortsage-----	B	January	3.3-5.0	>6.0	---	---	None	Brief	Rare
		February	3.3-5.0	>6.0	---	---	None	Brief	Rare
		March	3.3-5.0	>6.0	---	---	None	Brief	Rare
		April	3.3-5.0	>6.0	---	---	None	Brief	Rare
		May	---	---	---	---	None	Brief	Rare
		June	---	---	---	---	None	Brief	Rare
		July	---	---	---	---	None	Brief	Rare
		August	---	---	---	---	None	Brief	Rare
		September	---	---	---	---	None	Brief	Rare
		October	---	---	---	---	None	Brief	Rare
		November	---	---	---	---	None	Brief	Rare
		December	---	---	---	---	None	Brief	Rare
210: Fortsage-----	B	January	3.3-5.0	>6.0	---	---	None	Brief	Frequent
		February	3.3-5.0	>6.0	---	---	None	Brief	Frequent
		March	3.3-5.0	>6.0	---	---	None	Brief	Frequent
		April	3.3-5.0	>6.0	---	---	None	Brief	Frequent
		December	---	---	---	---	None	Brief	Frequent

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Surface water depth	Ponding		Flooding	
			Upper limit	Lower limit		Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
211: Praval-----	B	Jan-Dec	---	---	---	---	None	---	None
Fredonyer-----	C	Jan-Dec	---	---	---	---	None	---	None
Said-----	B	Jan-Dec	---	---	---	---	None	---	None
212: Praval-----	B	Jan-Dec	---	---	---	---	None	---	None
Said-----	B	Jan-Dec	---	---	---	---	None	---	None
213: Fredonyer-----	C	Jan-Dec	---	---	---	---	None	---	None
Whitinger-----	C	Jan-Dec	---	---	---	---	None	---	None
Orhood-----	D	Jan-Dec	---	---	---	---	None	---	None
214: Fulstone-----	D	Jan-Dec	---	---	---	---	None	---	None
Wylo-----	D	Jan-Dec	---	---	---	---	None	---	None
215: Galeppi-----	B	Jan-Dec	---	---	---	---	None	---	None
216: Galeppi-----	B	Jan-Dec	---	---	---	---	None	---	None
217: Galeppi-----	B	Jan-Dec	---	---	---	---	None	---	None
Glenbrook-----	D	Jan-Dec	---	---	---	---	None	---	None
218: Gavel-----	B	Jan-Dec	---	---	---	---	None	---	None
219: Gavel-----	B	Jan-Dec	---	---	---	---	None	---	None
Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
220: Gerlach-----	D	Jan-Dec	---	---	---	---	None	---	None
221: Gerlach-----	D	Jan-Dec	---	---	---	---	None	---	None
222: Gerlach-----	D	Jan-Dec	---	---	---	---	None	---	None
Ravendale-----	D	January February March April	---	---	---	---	None None None None	Long Long Long Long	Occasional Occasional Occasional Occasional
223: Gerle-----	B	Jan-Dec	---	---	---	---	None	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Pending			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
224: Gerle-----	B	Jan-Dec	---	---	---	---	None	---	None
225: Gerle-----	B	Jan-Dec	---	---	---	---	None	---	None
Gerle-----	B	Jan-Dec	---	---	---	---	None	---	None
Gerle-----	B	Jan-Dec	---	---	---	---	None	---	None
226: Glean-----	B	Jan-Dec	---	---	---	---	None	---	None
227: Glean-----	B	Jan-Dec	---	---	---	---	None	---	None
228: Glean-----	B	Jan-Dec	---	---	---	---	None	---	None
Searles-----	C	Jan-Dec	---	---	---	---	None	---	None
229: Glenbrook-----	D	Jan-Dec	---	---	---	---	None	---	None
Graufels-----	C	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
230: Graufels-----	C	Jan-Dec	---	---	---	---	None	---	None
Glenbrook-----	D	Jan-Dec	---	---	---	---	None	---	None
231: Hagata-----	D	Jan-Dec	---	---	---	---	None	---	None
Playas-----	D	February	---	---	0.0-1.0	Long	Frequent	---	None
		March	---	---	0.0-1.0	Long	Frequent	---	None
		April	---	---	0.0-1.0	Long	Frequent	---	None
		May	---	---	0.0-1.0	Long	Frequent	---	None
		June	---	---	0.0-1.0	Long	Frequent	---	None
		July	---	---	0.0-1.0	Long	Frequent	---	None
		August	---	---	0.0-1.0	Long	Frequent	---	None
		September	---	---	0.0-1.0	Long	Frequent	---	None
232: Hangtown-----	B	Jan-Dec	---	---	---	---	None	---	None
233: Hart Camp-----	D	Jan-Dec	---	---	---	---	None	---	None
Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
Tunnison-----	D	Jan-Dec	---	---	---	---	None	---	None
234: Hart Camp-----	D	Jan-Dec	---	---	---	---	None	---	None
Madeline-----	D	Jan-Dec	---	---	---	---	None	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
235: Haypress-----	A	Jan-Dec	---	---	---	---	None	---	None
Tanob-----	B	Jan-Dec	---	---	---	---	None	---	None
236: Herjun-----	B	January	4.0-5.0	5.0-6.0	---	---	None	---	None
		February	4.0-5.0	5.0-6.0	---	---	None	---	None
		March	4.0-5.0	5.0-6.0	---	---	None	---	None
		April	4.0-5.0	5.0-6.0	---	---	None	---	None
		May	4.0-5.0	5.0-6.0	---	---	None	---	None
		December	4.0-5.0	5.0-6.0	---	---	None	---	None
237: Herjun-----	B	January	4.0-5.0	5.0-6.0	---	---	None	Brief	Rare
		February	4.0-5.0	5.0-6.0	---	---	None	Brief	Rare
		March	4.0-5.0	5.0-6.0	---	---	None	Brief	Rare
		April	4.0-5.0	5.0-6.0	---	---	None	Brief	Rare
		May	4.0-5.0	5.0-6.0	---	---	None	Brief	Rare
		June	---	---	---	---	None	Brief	Rare
		July	---	---	---	---	None	Brief	Rare
		August	---	---	---	---	None	Brief	Rare
		September	---	---	---	---	None	Brief	Rare
		October	---	---	---	---	None	Brief	Rare
		November	---	---	---	---	None	Brief	Rare
		December	4.0-5.0	5.0-6.0	---	---	None	Brief	Rare
238: Highrock, loamy fine sand-	D	Jan-Dec	---	---	---	---	None	---	None
Mazuma-----	B	Jan-Dec	---	---	---	---	None	---	None
Wespac-----	C	Jan-Dec	---	---	---	---	None	---	None
239: Highrock, loamy fine sand-	D	Jan-Dec	---	---	---	---	None	---	None
Wespac, fine sandy loam---	D	Jan-Dec	---	---	---	---	None	---	None
Zoravista, loamy sand----	A	Jan-Dec	---	---	---	---	None	---	None
240: Home Camp-----	C	Jan-Dec	---	---	---	---	None	---	None
Newlands-----	B	Jan-Dec	---	---	---	---	None	---	None
241: Honlak-----	C	January	1.5-3.0	>6.0	---	---	None	---	None
		February	1.5-3.0	>6.0	---	---	None	---	None
		March	1.5-3.0	>6.0	---	---	None	---	None
		April	1.5-3.0	>6.0	---	---	None	---	None
		May	1.5-3.0	>6.0	---	---	None	---	None
		December	1.5-3.0	>6.0	---	---	None	---	None
242: Horsecamp-----	D	Jan-Dec	---	---	---	---	None	---	None
243: Horsecamp-----	D	Jan-Dec	---	---	---	---	None	---	None
Brubeck-----	D	Jan-Dec	---	---	---	---	None	---	None
244: Horsecamp-----	D	Jan-Dec	---	---	---	---	None	---	None
Hunnton-----	C	Jan-Dec	---	---	---	---	None	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
245: Horsecamp, cobbly clay----	D	Jan-Dec	---	---	---	---	None	---	None
Mahala-----	D	Jan-Dec	---	---	---	---	None	---	None
246: Humboldt-----	B	January	---	---	---	---	None	Brief	Rare
		February	---	---	---	---	None	Brief	Rare
		March	---	---	---	---	None	Brief	Rare
		April	4.0-6.0	>6.0	---	---	None	Brief	Rare
		May	4.0-6.0	>6.0	---	---	None	Brief	Rare
		June	4.0-6.0	>6.0	---	---	None	Brief	Rare
		July	4.0-6.0	>6.0	---	---	None	Brief	Rare
		August	4.0-6.0	>6.0	---	---	None	Brief	Rare
		September	4.0-6.0	>6.0	---	---	None	Brief	Rare
		October	---	---	---	---	None	Brief	Rare
		November	---	---	---	---	None	Brief	Rare
		December	---	---	---	---	None	Brief	Rare
247: Humboldt-----	D	January	1.5-3.0	>6.0	---	---	None	---	None
		February	1.5-3.0	>6.0	---	---	None	Long	Occasional
		March	1.5-3.0	>6.0	---	---	None	Long	Occasional
		April	1.5-3.0	>6.0	---	---	None	Long	Occasional
		May	1.5-3.0	>6.0	---	---	None	---	None
248: Humboldt-----	D	January	1.5-3.0	>6.0	---	---	None	---	None
		February	1.5-3.0	>6.0	0.0-4.0	Long	Frequent	Long	Occasional
		March	1.5-3.0	>6.0	0.0-4.0	Long	Frequent	Long	Occasional
		April	1.5-3.0	>6.0	0.0-4.0	Long	Frequent	Long	Occasional
		May	1.5-3.0	>6.0	---	---	None	---	None
249: Humboldt-----	D	January	0.5-2.0	>6.0	---	---	None	---	None
		February	0.5-2.0	>6.0	---	---	None	Long	Occasional
		March	0.5-2.0	>6.0	---	---	None	Long	Occasional
		April	0.5-2.0	>6.0	---	---	None	Long	Occasional
		May	0.5-2.0	>6.0	---	---	None	Long	Occasional
		June	0.5-2.0	>6.0	---	---	None	Long	Occasional
		December	0.5-2.0	>6.0	---	---	None	---	None
250: Hunton-----	C	Jan-Dec	---	---	---	---	None	---	None
Shinnpeak-----	D	Jan-Dec	---	---	---	---	None	---	None
251: Incy-----	A	Jan-Dec	---	---	---	---	None	---	None
252: Incy-----	A	Jan-Dec	---	---	---	---	None	---	None
253: Indiano-----	C	Jan-Dec	---	---	---	---	None	---	None
Graufels-----	C	Jan-Dec	---	---	---	---	None	---	None
254: Indiano-----	C	Jan-Dec	---	---	---	---	None	---	None
Searles-----	C	Jan-Dec	---	---	---	---	None	---	None
255: Indiano-----	C	Jan-Dec	---	---	---	---	None	---	None
Searles-----	C	Jan-Dec	---	---	---	---	None	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
256: Indiano-----	C	Jan-Dec	---	---	---	---	None	---	None
Zephan-----	C	Jan-Dec	---	---	---	---	None	---	None
Duco-----	D	Jan-Dec	---	---	---	---	None	---	None
257: Inville-----	B	Jan-Dec	---	---	---	---	None	---	None
258: Jauriga-----	B	Jan-Dec	---	---	---	---	None	---	None
259: Jauriga-----	B	Jan-Dec	---	---	---	---	None	---	None
Buckbay-----	C	Jan-Dec	---	---	---	---	None	---	None
Fredonyer-----	C	Jan-Dec	---	---	---	---	None	---	None
260: Keddie-----	D	January	0.0-1.5	>6.0	---	---	None	---	Rare
		February	0.0-1.5	>6.0	---	---	None	---	Rare
		March	0.0-1.5	>6.0	---	---	None	---	Rare
		April	0.0-1.5	>6.0	---	---	None	---	Rare
		May	0.0-1.5	>6.0	---	---	None	---	Rare
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
		September	---	---	---	---	None	---	Rare
		October	---	---	---	---	None	---	Rare
		November	---	---	---	---	None	---	Rare
		December	---	---	---	---	None	---	Rare
261: Keddie-----	C	January	1.5-3.5	>6.0	---	---	None	Brief	Occasional
		February	1.5-3.5	>6.0	---	---	None	Brief	Occasional
		March	1.5-3.5	>6.0	---	---	None	Brief	Occasional
		April	1.5-3.5	>6.0	---	---	None	Brief	Occasional
		May	1.5-3.5	>6.0	---	---	None	Brief	Occasional
		December	---	---	---	---	None	Brief	Occasional
262: Ladd-----	B	February	3.5-5.0	>6.0	---	---	None	---	None
		March	3.5-5.0	>6.0	---	---	None	---	None
		April	3.5-5.0	>6.0	---	---	None	---	None
		May	3.5-5.0	>6.0	---	---	None	---	None
263: Ladd-----	B	February	3.5-5.0	>6.0	---	---	None	---	None
		March	3.5-5.0	>6.0	---	---	None	---	None
		April	3.5-5.0	>6.0	---	---	None	---	None
		May	3.5-5.0	>6.0	---	---	None	---	None
Bieber-----	D	Jan-Dec	---	---	---	---	None	---	None
264: Lakeview-----	C	March	2.5-5.0	>6.0	---	---	None	Brief	Occasional
		April	2.5-5.0	>6.0	---	---	None	Brief	Occasional
		May	2.5-5.0	>6.0	---	---	None	Brief	Occasional
		June	2.5-5.0	>6.0	---	---	None	---	None
		July	2.5-5.0	>6.0	---	---	None	---	None
		August	2.5-5.0	>6.0	---	---	None	---	None
		September	2.5-5.0	>6.0	---	---	None	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
265: Lakeview-----	C	March	2.5-5.0	>6.0	---	---	None	Brief	Occasional
		April	2.5-5.0	>6.0	---	---	None	Brief	Occasional
		May	2.5-5.0	>6.0	---	---	None	Brief	Occasional
		June	2.5-5.0	>6.0	---	---	None	---	None
		July	2.5-5.0	>6.0	---	---	None	---	None
		August	2.5-5.0	>6.0	---	---	None	---	None
		September	2.5-5.0	>6.0	---	---	None	---	None
266: Lasco-----	B	Jan-Dec	---	---	---	---	None	---	None
267: Lasco-----	B	Jan-Dec	---	---	---	---	None	---	None
268: Lasco-----	B	Jan-Dec	---	---	---	---	None	---	None
269: Lasco-----	B	Jan-Dec	---	---	---	---	None	---	None
Bonta-----	B	Jan-Dec	---	---	---	---	None	---	None
270: Lieberman-----	B	Jan-Dec	---	---	---	---	None	---	None
271: Lieberman-----	B	Jan-Dec	---	---	---	---	None	---	None
Herlong-----	D	Jan-Dec	---	---	---	---	None	---	None
272: Lodico-----	D	Jan-Dec	---	---	---	---	None	---	None
273: Longcreek-----	D	Jan-Dec	---	---	---	---	None	---	None
Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
Rubble land-----	A	Jan-Dec	---	---	---	---	None	---	None
274: Longcreek-----	D	Jan-Dec	---	---	---	---	None	---	None
Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
Rubble land-----	A	Jan-Dec	---	---	---	---	None	---	None
275: Loomis-----	D	Jan-Dec	---	---	---	---	None	---	None
276: Loomis-----	D	Jan-Dec	---	---	---	---	None	---	None
Fivesprings-----	C	Jan-Dec	---	---	---	---	None	---	None
277: Loomis-----	D	Jan-Dec	---	---	---	---	None	---	None
Rubble land-----	A	Jan-Dec	---	---	---	---	None	---	None
278: Madeline-----	D								

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
Glean-----	B	Jan-Dec	---	---	---	---	None	---	None
		Jan-Dec	---	---	---	---	None	---	None
Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
279: Madeline-----	D	Jan-Dec	---	---	---	---	None	---	None
Sumine-----	C	Jan-Dec	---	---	---	---	None	---	None
280: Massack-----	C	January	1.0-2.5	>6.0	---	---	None	Brief	Occasional
		February	1.0-2.5	>6.0	---	---	None	Brief	Occasional
		March	1.0-2.5	>6.0	---	---	None	Brief	Occasional
		April	1.0-2.5	>6.0	---	---	None	---	None
		May	1.0-2.5	>6.0	---	---	None	---	None
		December	---	---	---	---	None	Brief	Occasional
281: Mazuma-----	B	Jan-Dec	---	---	---	---	None	---	None
282: Mazuma-----	B	Jan-Dec	---	---	---	---	None	---	None
283: McConnel-----	B	Jan-Dec	---	---	---	---	None	---	None
Mottsville-----	A	Jan-Dec	---	---	---	---	None	---	None
284: McDermott-----	B	Jan-Dec	---	---	---	---	None	---	None
285: Modoc-----	C	Jan-Dec	---	---	---	---	None	---	None
Truax-----	B	Jan-Dec	---	---	---	---	None	---	None
286: Mottsville-----	A	Jan-Dec	---	---	---	---	None	---	None
287: Mottsville-----	A	Jan-Dec	---	---	---	---	None	---	None
288: Mottsville-----	A	Jan-Dec	---	---	---	---	None	---	None
289: Mottsville-----	A	Jan-Dec	---	---	---	---	None	---	None
290: Mottsville-----	A	Jan-Dec	---	---	---	---	None	---	None
291: Mottsville-----	A	Jan-Dec	---	---	---	---	None	---	None
292: Mottsville-----	A	Jan-Dec	---	---	---	---	None	---	None
Galeppi-----	B	Jan-Dec	---	---	---	---	None	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
293: Mountmed-----	D	January	0.0	>6.0	0.0-0.5	---	None	---	None
		February	0.0	>6.0	0.0-0.5	---	None	---	None
		March	0.0	>6.0	0.0-0.5	---	None	---	None
		April	0.0	>6.0	0.0-0.5	---	None	---	None
		May	0.0	>6.0	0.0-0.5	---	None	---	None
		June	0.0	>6.0	0.0-0.5	---	None	---	None
		November	0.0	>6.0	0.0-0.5	---	None	---	None
		December	0.0	>6.0	0.0-0.5	---	None	---	None
294: Mountmed-----	D	January	0.0-1.5	>6.0	---	---	None	---	None
		February	0.0-1.5	>6.0	---	---	None	---	None
		March	0.0-1.5	>6.0	---	---	None	Long	Frequent
		April	0.0-1.5	>6.0	---	---	None	Long	Frequent
		May	0.0-1.5	>6.0	---	---	None	Long	Frequent
		June	0.0-1.5	>6.0	---	---	None	---	None
		December	0.0-1.5	>6.0	---	---	None	---	None
295: Mountmed-----	C	March	2.5-4.0	>6.0	0.0-1.0	Brief	Frequent	Very brief	Frequent
		April	2.5-4.0	>6.0	0.0-1.0	Brief	Frequent	Very brief	Frequent
		May	2.5-4.0	>6.0	0.0-1.0	Brief	Frequent	Very brief	Frequent
		June	2.5-4.0	>6.0	---	---	None	---	None
296: Newlands-----	B	Jan-Dec	---	---	---	---	None	---	None
Hapgood-----	B	Jan-Dec	---	---	---	---	None	---	None
297: Ninemile-----	D	Jan-Dec	---	---	---	---	None	---	None
Home Camp-----	C	Jan-Dec	---	---	---	---	None	---	None
Newlands-----	B	Jan-Dec	---	---	---	---	None	---	None
298: Ninemile-----	D	Jan-Dec	---	---	---	---	None	---	None
Petescreek-----	C	Jan-Dec	---	---	---	---	None	---	None
Fiddler-----	C	Jan-Dec	---	---	---	---	None	---	None
299: Ninemile-----	D	Jan-Dec	---	---	---	---	None	---	None
Weste-----	C	Jan-Dec	---	---	---	---	None	---	None
300: Observation-----	C	Jan-Dec	---	---	---	---	None	---	None
Searles-----	C	Jan-Dec	---	---	---	---	None	---	None
Madeline-----	D	Jan-Dec	---	---	---	---	None	---	None
301: Observation-----	C	Jan-Dec	---	---	---	---	None	---	None
Searles-----	C	Jan-Dec	---	---	---	---	None	---	None
Madeline-----	D	Jan-Dec	---	---	---	---	None	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
302: Orhood-----	D	Jan-Dec	---	---	---	---	None	---	None
303: Orr-----	B	Jan-Dec	---	---	---	---	None	---	None
304: Outland-----	B	Jan-Dec	---	---	---	---	None	---	None
305: Outland-----	B	Jan-Dec	---	---	---	---	None	---	None
Outland-----	B	Jan-Dec	---	---	---	---	None	---	None
306: Outland-----	B	Jan-Dec	---	---	---	---	None	---	None
Penstock-----	B	Jan-Dec	---	---	---	---	None	---	None
307: Outland-----	B	Jan-Dec	---	---	---	---	None	---	None
Penstock-----	B	Jan-Dec	---	---	---	---	None	---	None
308: Papeek-----	D	Jan-Dec	---	---	---	---	None	---	None
309: Papeek-----	D	Jan-Dec	---	---	---	---	None	---	None
310: Penstock-----	B	Jan-Dec	---	---	---	---	None	---	None
Deadwood-----	D	Jan-Dec	---	---	---	---	None	---	None
311: Penstock-----	B	Jan-Dec	---	---	---	---	None	---	None
Deadwood-----	D	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
312: Penstock-----	B	Jan-Dec	---	---	---	---	None	---	None
Scaribou, stony loam-----	B	Jan-Dec	---	---	---	---	None	---	None
313: Penstock-----	B	Jan-Dec	---	---	---	---	None	---	None
Scaribou, stony loam-----	B	Jan-Dec	---	---	---	---	None	---	None
314: Pequop, very cobbly loam--	B	Jan-Dec	---	---	---	---	None	---	None
Observation-----	C	Jan-Dec	---	---	---	---	None	---	None
315: Pequop-----	B	Jan-Dec	---	---	---	---	None	---	None
Observation-----	C	Jan-Dec	---	---	---	---	None	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
316: Petescreek-----	C	Jan-Dec	---	---	---	---	None	---	None
Bucklake-----	C	Jan-Dec	---	---	---	---	None	---	None
Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
317: Petescreek-----	C	Jan-Dec	---	---	---	---	None	---	None
Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
Searles-----	C	Jan-Dec	---	---	---	---	None	---	None
318: Petescreek-----	C	Jan-Dec	---	---	---	---	None	---	None
Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
Searles-----	C	Jan-Dec	---	---	---	---	None	---	None
319: Petescreek-----	C	Jan-Dec	---	---	---	---	None	---	None
Fredonyer-----	C	Jan-Dec	---	---	---	---	None	---	None
320: Petescreek-----	C	Jan-Dec	---	---	---	---	None	---	None
Fredonyer-----	C	Jan-Dec	---	---	---	---	None	---	None
321: Petescreek-----	B	Jan-Dec	---	---	---	---	None	---	None
Orhood-----	D	Jan-Dec	---	---	---	---	None	---	None
Fredonyer-----	C	Jan-Dec	---	---	---	---	None	---	None
322: Petescreek-----	C	Jan-Dec	---	---	---	---	None	---	None
Searles-----	C	Jan-Dec	---	---	---	---	None	---	None
323: Petescreek-----	C	Jan-Dec	---	---	---	---	None	---	None
Searles-----	C	Jan-Dec	---	---	---	---	None	---	None
Orhood-----	D	Jan-Dec	---	---	---	---	None	---	None
324: Pit-----	D	January	5.0-6.0	>6.0	---	---	None	Long	Occasional
		February	5.0-6.0	>6.0	---	---	None	Long	Occasional
		March	5.0-6.0	>6.0	---	---	None	Long	Occasional
		April	5.0-6.0	>6.0	---	---	None	Long	Occasional
		May	5.0-6.0	>6.0	---	---	None	Long	Occasional
		December	5.0-6.0	>6.0	---	---	None	---	None
325: Pits-----	A	Jan-Dec	---	---	---	---	None	---	None
Dumps-----	A	Jan-Dec	---	---	---	---	None	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
326: Playas, silty clay-----	D	February	---	---	0.0-1.0	Long	Frequent	---	None
		March	---	---	0.0-1.0	Long	Frequent	---	None
		April	---	---	0.0-1.0	Long	Frequent	---	None
		May	---	---	0.0-1.0	Long	Frequent	---	None
		June	---	---	0.0-1.0	Long	Frequent	---	None
		July	---	---	0.0-1.0	Long	Frequent	---	None
		August	---	---	0.0-1.0	Long	Frequent	---	None
		September	---	---	0.0-1.0	Long	Frequent	---	None
327: plinco, gravelly sandy loam-----	B	April	3.5-5.0	>6.0	---	---	None	---	None
		May	3.5-5.0	>6.0	---	---	None	---	None
328: Plinco-----	B	April	3.5-5.0	>6.0	---	---	None	---	None
		May	3.5-5.0	>6.0	---	---	None	---	None
329: Puls-----	D	Jan-Dec	---	---	---	---	None	---	None
330: Puls-----	D	Jan-Dec	---	---	---	---	None	---	None
Ninekar-----	D	Jan-Dec	---	---	---	---	None	---	None
331: Puls-----	D	Jan-Dec	---	---	---	---	None	---	None
Tunnison-----	D	Jan-Dec	---	---	---	---	None	---	None
332: Quartzburg-----	C	Jan-Dec	---	---	---	---	None	---	None
Scaribou-----	B	Jan-Dec	---	---	---	---	None	---	None
333: Ravendale-----	D	January	---	---	0.0-1.0	Brief	Rare	Brief	Rare
		February	---	---	0.0-1.0	Brief	Rare	Brief	Rare
		March	---	---	0.0-1.0	Brief	Rare	Brief	Rare
		April	---	---	0.0-1.0	Brief	Rare	Brief	Rare
		May	---	---	---	---	None	Brief	Rare
		June	---	---	---	---	None	Brief	Rare
		July	---	---	---	---	None	Brief	Rare
		August	---	---	---	---	None	Brief	Rare
		September	---	---	---	---	None	Brief	Rare
		October	---	---	---	---	None	Brief	Rare
		November	---	---	---	---	None	Brief	Rare
		December	---	---	---	---	None	Brief	Rare
334: Ravendale-----	D	January	---	---	0.0-1.0	Long	Occasional	Long	Occasional
		February	---	---	0.0-1.0	Long	Occasional	Long	Occasional
		March	---	---	0.0-1.0	Long	Occasional	Long	Occasional
		April	---	---	0.0-1.0	Long	Occasional	Long	Occasional
335: Ravendale-----	D	January	0.0	>6.0	0.0-1.0	Brief	Rare	---	None
		February	0.0	>6.0	0.0-1.0	Brief	Rare	---	None
		March	0.0	>6.0	0.0-1.0	Brief	Rare	---	None
		April	0.0	>6.0	0.0-1.0	Brief	Rare	---	None
		May	0.0	>6.0	0.0-1.0	Brief	Rare	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
336: Ravendale-----	D		Ft	Ft	Ft				
		January	---	---	---	---	None	Brief	Rare
		February	---	---	---	---	None	Brief	Rare
		March	---	---	---	---	None	Brief	Rare
		April	---	---	---	---	None	Brief	Rare
		May	---	---	---	---	None	Brief	Rare
		June	---	---	---	---	None	Brief	Rare
		July	---	---	---	---	None	Brief	Rare
		August	---	---	---	---	None	Brief	Rare
		September	---	---	---	---	None	Brief	Rare
		October	---	---	---	---	None	Brief	Rare
		November	---	---	---	---	None	Brief	Rare
		December	---	---	---	---	None	Brief	Rare
337: Redriver-----	C	Jan-Dec	---	---	---	---	None	---	None
Gerle-----	B	Jan-Dec	---	---	---	---	None	---	None
338: Redriver-----	C	Jan-Dec	---	---	---	---	None	---	None
Westa-----	C	Jan-Dec	---	---	---	---	None	---	None
339: Redriver, stony sandy loam	C	Jan-Dec	---	---	---	---	None	---	None
Woodwest-----	D	Jan-Dec	---	---	---	---	None	---	None
Wafle-----	B	Jan-Dec	---	---	---	---	None	---	None
340: Rices-----	C								
		January	1.5-3.5	>6.0	---	---	None	Brief	Rare
		February	1.5-3.5	>6.0	---	---	None	Brief	Rare
		March	1.5-3.5	>6.0	---	---	None	Brief	Rare
		April	1.5-3.5	>6.0	---	---	None	Brief	Rare
		May	1.5-3.5	>6.0	---	---	None	Brief	Rare
		June	1.5-3.5	>6.0	---	---	None	Brief	Rare
		July	---	---	---	---	None	Brief	Rare
		August	---	---	---	---	None	Brief	Rare
		September	---	---	---	---	None	Brief	Rare
		October	---	---	---	---	None	Brief	Rare
		November	---	---	---	---	None	Brief	Rare
		December	1.5-3.5	>6.0	---	---	None	Brief	Rare
341: Rose Creek-----	C								
		January	1.5-3.0	>6.0	---	---	None	---	None
		February	1.5-3.0	>6.0	---	---	None	Long	Occasional
		March	1.5-3.0	>6.0	---	---	None	Long	Occasional
		April	1.5-3.0	>6.0	---	---	None	Long	Occasional
		May	1.5-3.0	>6.0	---	---	None	Long	Occasional
		June	1.5-3.0	>6.0	---	---	None	Long	Occasional
		July	1.5-3.0	>6.0	---	---	None	---	None
		December	1.5-3.0	>6.0	---	---	None	---	None
342: Rose Creek-----	C								
		January	---	---	---	---	None	Brief	Rare
		February	1.5-3.5	>6.0	---	---	None	Brief	Rare
		March	1.5-3.5	>6.0	---	---	None	Brief	Rare
		April	1.5-3.5	>6.0	---	---	None	Brief	Rare
		May	1.5-3.5	>6.0	---	---	None	Brief	Rare
		June	---	---	---	---	None	Brief	Rare
		July	---	---	---	---	None	Brief	Rare
		August	---	---	---	---	None	Brief	Rare
		September	---	---	---	---	None	Brief	Rare
		October	---	---	---	---	None	Brief	Rare
		November	---	---	---	---	None	Brief	Rare
		December	---	---	---	---	None	Brief	Rare
343: Rubble land-----	A	Jan-Dec	---	---	---	---	None	---	None
Fiddler-----	C	Jan-Dec	---	---	---	---	None	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
344: Rubble land-----	A	Jan-Dec	---	---	---	---	None	---	None
Longcreek-----	D	Jan-Dec	---	---	---	---	None	---	None
Fivesprings-----	C	Jan-Dec	---	---	---	---	None	---	None
345: Rubble land-----	A	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
346: Rubble land-----	A	Jan-Dec	---	---	---	---	None	---	None
Weste-----	C	Jan-Dec	---	---	---	---	None	---	None
347: Saddlerock-----	D	January	0.0	>6.0	0.0-1.0	Brief	Occasional	---	None
		February	0.0	>6.0	0.0-1.0	Brief	Occasional	---	None
		March	0.0	>6.0	0.0-1.0	Brief	Occasional	---	None
		April	0.0	>6.0	0.0-1.0	Brief	Occasional	---	None
		May	0.0	>6.0	0.0-1.0	Brief	Occasional	---	None
		June	0.0	>6.0	0.0-1.0	Brief	Occasional	---	None
		November	0.0	>6.0	0.0-1.0	Brief	Occasional	---	None
		December	0.0	>6.0	0.0-1.0	Brief	Occasional	---	None
348: Saddlerock-----	D	January	2.0-3.5	>6.0	---	---	None	Brief	Occasional
		February	2.0-3.5	>6.0	---	---	None	Brief	Occasional
		March	2.0-3.5	>6.0	---	---	None	Brief	Occasional
		April	2.0-3.5	>6.0	---	---	None	Brief	Occasional
		May	2.0-3.5	>6.0	---	---	None	Brief	Occasional
349: Saddlerock-----	D	January	---	---	---	---	None	Very brief	Occasional
		February	3.5-4.0	>6.0	---	---	None	Very brief	Occasional
		March	3.5-4.0	>6.0	---	---	None	Very brief	Occasional
		April	3.5-4.0	>6.0	---	---	None	Very brief	Occasional
		May	---	---	---	---	None	Very brief	Occasional
350: Saddlerock-----	D	January	2.0-3.5	>6.0	---	---	None	Brief	Occasional
		February	2.0-3.5	>6.0	---	---	None	Brief	Occasional
		March	2.0-3.5	>6.0	---	---	None	Brief	Occasional
		April	2.0-3.5	>6.0	---	---	None	Brief	Occasional
		May	2.0-3.5	>6.0	---	---	None	Brief	Occasional
Yobe-----	C	January	3.0-5.0	>6.0	---	---	None	Long	Occasional
		February	3.0-5.0	>6.0	---	---	None	Long	Occasional
		March	3.0-5.0	>6.0	---	---	None	Long	Occasional
		April	3.0-5.0	>6.0	---	---	None	Long	Occasional
Termo-----	D	January	0.0	>6.0	0.0-1.0	Brief	Occasional	---	None
		February	0.0	>6.0	0.0-1.0	Brief	Occasional	---	None
		March	0.0	>6.0	0.0-1.0	Brief	Occasional	---	None
351: Said-----	B	Jan-Dec	---	---	---	---	None	---	None
352: Said-----	B	Jan-Dec	---	---	---	---	None	---	None
Fraval-----	B	Jan-Dec	---	---	---	---	None	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
353: Said-----	B	Jan-Dec	---	---	---	---	None	---	None
Ninemile-----	D	Jan-Dec	---	---	---	---	None	---	None
354: Scaribou-----	B	Jan-Dec	---	---	---	---	None	---	None
355: Scaribou-----	B	Jan-Dec	---	---	---	---	None	---	None
Panstock-----	B	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
356: Searles-----	C	Jan-Dec	---	---	---	---	None	---	None
Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
Fivesprings-----	C	Jan-Dec	---	---	---	---	None	---	None
357: Searles-----	C	Jan-Dec	---	---	---	---	None	---	None
Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
Rubble land-----	A	Jan-Dec	---	---	---	---	None	---	None
358: Searles-----	C	Jan-Dec	---	---	---	---	None	---	None
Glean-----	B	Jan-Dec	---	---	---	---	None	---	None
359: Searles-----	C	Jan-Dec	---	---	---	---	None	---	None
Glean-----	B	Jan-Dec	---	---	---	---	None	---	None
360: Searles-----	C	Jan-Dec	---	---	---	---	None	---	None
Orhood-----	D	Jan-Dec	---	---	---	---	None	---	None
Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
361: Shinnpeak, very cobbly sandy loam-----	D	Jan-Dec	---	---	---	---	None	---	None
362: Smocreek-----	C	January	3.5-5.0	>6.0	---	---	None	Brief	Rare
		February	3.5-5.0	>6.0	---	---	None	Brief	Rare
		March	3.5-5.0	>6.0	---	---	None	Brief	Rare
		April	3.5-5.0	>6.0	---	---	None	Brief	Rare
		May	3.5-5.0	>6.0	---	---	None	Brief	Rare
		June	---	---	---	---	None	Brief	Rare
		July	---	---	---	---	None	Brief	Rare
		August	---	---	---	---	None	Brief	Rare
		September	---	---	---	---	None	Brief	Rare
		October	---	---	---	---	None	Brief	Rare
		November	---	---	---	---	None	Brief	Rare
		December	---	---	---	---	None	Brief	Rare

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
363: Smocreek, silt loam-----	C	January	3.5-5.0	>6.0	---	---	None	Brief	Rare
		February	3.5-5.0	>6.0	---	---	None	Brief	Rare
		March	3.5-5.0	>6.0	---	---	None	Brief	Rare
		April	3.5-5.0	>6.0	---	---	None	Brief	Rare
		May	3.5-5.0	>6.0	---	---	None	Brief	Rare
		June	---	---	---	---	None	Brief	Rare
		July	---	---	---	---	None	Brief	Rare
		August	---	---	---	---	None	Brief	Rare
		September	---	---	---	---	None	Brief	Rare
		October	---	---	---	---	None	Brief	Rare
		November	---	---	---	---	None	Brief	Rare
		December	---	---	---	---	None	Brief	Rare
364: Southpac-----	B	Jan-Dec	---	---	---	---	None	---	None
365: Springmeyer-----	B	Jan-Dec	---	---	---	---	None	---	None
366: Springmeyer-----	B	Jan-Dec	---	---	---	---	None	---	None
367: Stacy-----	B	January	---	---	---	---	None	Brief	Rare
		February	---	---	---	---	None	Brief	Rare
		March	---	---	---	---	None	Brief	Rare
		April	---	---	---	---	None	Brief	Rare
		May	---	---	---	---	None	Brief	Rare
		June	---	---	---	---	None	Brief	Rare
		July	---	---	---	---	None	Brief	Rare
		August	---	---	---	---	None	Brief	Rare
		September	---	---	---	---	None	Brief	Rare
		October	---	---	---	---	None	Brief	Rare
		November	---	---	---	---	None	Brief	Rare
		December	---	---	---	---	None	Brief	Rare
368: Standish-----	C	Jan-Dec	---	---	---	---	None	---	None
369: Stiles-----	C	Jan-Dec	---	---	---	---	None	---	None
370: Sumina-----	C	Jan-Dec	---	---	---	---	None	---	None
Softscrabble, stony fine sandy loam-----	C	Jan-Dec	---	---	---	---	None	---	None
Hutchley-----	D	Jan-Dec	---	---	---	---	None	---	None
371: Susanville-----	D	January	3.0-5.0	>6.0	---	---	None	Brief	Rare
		February	3.0-5.0	>6.0	---	---	None	Brief	Rare
		March	3.0-5.0	>6.0	---	---	None	Brief	Rare
		April	3.0-5.0	>6.0	---	---	None	Brief	Rare
		May	---	---	---	---	None	Brief	Rare
		June	---	---	---	---	None	Brief	Rare
		July	---	---	---	---	None	Brief	Rare
		August	---	---	---	---	None	Brief	Rare
		September	---	---	---	---	None	Brief	Rare
		October	---	---	---	---	None	Brief	Rare
		November	---	---	---	---	None	Brief	Rare
		December	---	---	---	---	None	Brief	Rare

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
372: Susanville-----	D		Ft	Ft	Ft				
		January	3.0-5.0	>6.0	---	---	None	Brief	Rare
		February	3.0-5.0	>6.0	---	---	None	Brief	Rare
		March	3.0-5.0	>6.0	---	---	None	Brief	Rare
		April	3.0-5.0	>6.0	---	---	None	Brief	Rare
		May	---	---	---	---	None	Brief	Rare
		June	---	---	---	---	None	Brief	Rare
		July	---	---	---	---	None	Brief	Rare
		August	---	---	---	---	None	Brief	Rare
		September	---	---	---	---	None	Brief	Rare
		October	---	---	---	---	None	Brief	Rare
		November	---	---	---	---	None	Brief	Rare
		December	---	---	---	---	None	Brief	Rare
Smocreek-----	C								
		January	3.5-5.0	>6.0	---	---	None	Brief	Rare
		February	3.5-5.0	>6.0	---	---	None	Brief	Rare
		March	3.5-5.0	>6.0	---	---	None	Brief	Rare
		April	3.5-5.0	>6.0	---	---	None	Brief	Rare
		May	3.5-5.0	>6.0	---	---	None	Brief	Rare
		June	---	---	---	---	None	Brief	Rare
		July	---	---	---	---	None	Brief	Rare
		August	---	---	---	---	None	Brief	Rare
		September	---	---	---	---	None	Brief	Rare
		October	---	---	---	---	None	Brief	Rare
		November	---	---	---	---	None	Brief	Rare
		December	---	---	---	---	None	Brief	Rare
373: Swainow-----	B								
		Jan-Dec	---	---	---	---	None	---	None
Almanor-----	B								
		Jan-Dec	---	---	---	---	None	---	None
Tahand-----	B								
		Jan-Dec	---	---	---	---	None	---	None
374: Swainow, very stony sandy loam-----	B								
		Jan-Dec	---	---	---	---	None	---	None
Almanor-----	B								
		Jan-Dec	---	---	---	---	None	---	None
375: Swainow-----	B								
		Jan-Dec	---	---	---	---	None	---	None
Redriver-----	C								
		Jan-Dec	---	---	---	---	None	---	None
376: Swainow-----	B								
		Jan-Dec	---	---	---	---	None	---	None
Tahand-----	B								
		Jan-Dec	---	---	---	---	None	---	None
377: Tahand-----	B								
		Jan-Dec	---	---	---	---	None	---	None
Baileycreek-----	C								
		Jan-Dec	---	---	---	---	None	---	None
378: Tahand-----	B								
		Jan-Dec	---	---	---	---	None	---	None
Swainow-----	B								
		Jan-Dec	---	---	---	---	None	---	None
Almanor-----	B								
		Jan-Dec	---	---	---	---	None	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
379: Termo-----	D	January	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
Biscaro-----	D	January	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
380: Termo-----	D	January	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
Playas-----	D	February	---	---	0.0-1.0	Long	Frequent	---	None
		March	---	---	0.0-1.0	Long	Frequent	---	None
		April	---	---	0.0-1.0	Long	Frequent	---	None
		May	---	---	0.0-1.0	Long	Frequent	---	None
		June	---	---	0.0-1.0	Long	Frequent	---	None
		July	---	---	0.0-1.0	Long	Frequent	---	None
		August	---	---	0.0-1.0	Long	Frequent	---	None
		September	---	---	0.0-1.0	Long	Frequent	---	None
381: Termo-----	D	January	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
Springmeyer-----	B	Jan-Dec	---	---	---	---	None	---	None
Smocreek-----	C	January	3.5-5.0	>6.0	---	---	None	Brief	Rare
		February	3.5-5.0	>6.0	---	---	None	Brief	Rare
		March	3.5-5.0	>6.0	---	---	None	Brief	Rare
		April	3.5-5.0	>6.0	---	---	None	Brief	Rare
		May	3.5-5.0	>6.0	---	---	None	Brief	Rare
		June	---	---	---	---	None	Brief	Rare
		July	---	---	---	---	None	Brief	Rare
		August	---	---	---	---	None	Brief	Rare
		September	---	---	---	---	None	Brief	Rare
		October	---	---	---	---	None	Brief	Rare
		November	---	---	---	---	None	Brief	Rare
		December	---	---	---	---	None	Brief	Rare
382: Toiyabe-----	C	Jan-Dec	---	---	---	---	None	---	None
Lasco-----	B	Jan-Dec	---	---	---	---	None	---	None
Quartzburg-----	C	Jan-Dec	---	---	---	---	None	---	None
383: Toiyabe-----	C	Jan-Dec	---	---	---	---	None	---	None
Lasco-----	B	Jan-Dec	---	---	---	---	None	---	None
384: Torriorthents-----	X	Jan-Dec	---	---	---	---	None	---	None
Zorravista-----	A	Jan-Dec	---	---	---	---	None	---	None
385: Truax-----	B	Jan-Dec	---	---	---	---	None	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
386: Truckee-----	C	January	2.5-5.0	>6.0	---	---	None	Brief	Rare
		February	2.5-5.0	>6.0	---	---	None	Brief	Rare
		March	2.5-5.0	>6.0	---	---	None	Brief	Rare
		April	2.5-5.0	>6.0	---	---	None	Brief	Rare
		May	2.5-5.0	>6.0	---	---	None	Brief	Rare
		June	2.5-5.0	>6.0	---	---	None	Brief	Rare
		July	2.5-5.0	>6.0	---	---	None	Brief	Rare
		August	---	---	---	---	None	Brief	Rare
		September	---	---	---	---	None	Brief	Rare
		October	---	---	---	---	None	Brief	Rare
		November	---	---	---	---	None	Brief	Rare
		December	2.5-5.0	>6.0	---	---	None	Brief	Rare
387: Truckee-----	C	February	1.5-3.5	>6.0	---	---	None	Long	Occasional
		March	1.5-3.5	>6.0	---	---	None	Long	Occasional
		April	1.5-3.5	>6.0	---	---	None	Long	Occasional
		May	1.5-3.5	>6.0	---	---	None	Long	Occasional
Humboldt-----	D	January	1.5-3.0	>6.0	---	---	None	---	None
		February	1.5-3.0	>6.0	---	---	None	Long	Occasional
		March	1.5-3.0	>6.0	---	---	None	Long	Occasional
		April	1.5-3.0	>6.0	---	---	None	Long	Occasional
		May	1.5-3.0	>6.0	---	---	None	---	None
388: Tunnison-----	D	Jan-Dec	---	---	---	---	None	---	None
389: Tunnison-----	D	Jan-Dec	---	---	---	---	None	---	None
Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
390: Tunnison-----	D	Jan-Dec	---	---	---	---	None	---	None
Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
391: Ulhalf-----	B	Jan-Dec	---	---	---	---	None	---	None
392: Ulhalf-----	B	Jan-Dec	---	---	---	---	None	---	None
393: Ulhalf-----	B	Jan-Dec	---	---	---	---	None	---	None
Gavel-----	B	Jan-Dec	---	---	---	---	None	---	None
394: Ulhalf-----	B	Jan-Dec	---	---	---	---	None	---	None
Southpac-----	B	Jan-Dec	---	---	---	---	None	---	None
395: Verdico-----	D	Jan-Dec	---	---	---	---	None	---	None
Chalco-----	D	Jan-Dec	---	---	---	---	None	---	None
396: Wespac-----	D	Jan-Dec	---	---	---	---	None	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
397: Wespac-----	D	Jan-Dec	---	---	---	---	None	---	None
Playas-----	D	February	---	---	0.0-1.0	Long	Frequent	---	None
		March	---	---	0.0-1.0	Long	Frequent	---	None
		April	---	---	0.0-1.0	Long	Frequent	---	None
		May	---	---	0.0-1.0	Long	Frequent	---	None
		June	---	---	0.0-1.0	Long	Frequent	---	None
		July	---	---	0.0-1.0	Long	Frequent	---	None
		August	---	---	0.0-1.0	Long	Frequent	---	None
		September	---	---	0.0-1.0	Long	Frequent	---	None
398: Weste-----	C	Jan-Dec	---	---	---	---	None	---	None
Baileycreek-----	C	Jan-Dec	---	---	---	---	None	---	None
Tahand-----	B	Jan-Dec	---	---	---	---	None	---	None
399: Weste-----	C	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
400: Whitinger-----	C	Jan-Dec	---	---	---	---	None	---	None
Devada-----	D	Jan-Dec	---	---	---	---	None	---	None
401: Whorled-----	C	Jan-Dec	---	---	---	---	None	---	None
Almanor-----	B	Jan-Dec	---	---	---	---	None	---	None
402: Wylo-----	D	Jan-Dec	---	---	---	---	None	---	None
Bucklake-----	C	Jan-Dec	---	---	---	---	None	---	None
403: Wylo-----	D	Jan-Dec	---	---	---	---	None	---	None
Diaz-----	C	Jan-Dec	---	---	---	---	None	---	None
Brubeck-----	D	Jan-Dec	---	---	---	---	None	---	None
404: Wylo-----	D	Jan-Dec	---	---	---	---	None	---	None
Pickup-----	C	Jan-Dec	---	---	---	---	None	---	None
Bucklake-----	C	Jan-Dec	---	---	---	---	None	---	None

TABLE 21.--WATER FEATURES--Continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
405: Xerolls-----	A	April	2.5-3.3	>6.0	---	---	None	---	None
		May	2.5-3.3	>6.0	---	---	None	---	None
		June	2.5-3.3	>6.0	---	---	None	---	None
Aquolls-----	A	January	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		February	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		March	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		April	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		May	0.0	>6.0	0.0-1.0	Very long	Frequent	---	None
		June	0.0	>6.0	0.0-1.0	Very long	Occasional	---	None
		July	0.0	>6.0	0.0-1.0	Very long	Rare	---	None
		August	0.0	>6.0	0.0-1.0	Very long	Rare	---	None
		September	0.0	>6.0	0.0-1.0	Very long	Rare	---	None
		October	0.0	>6.0	0.0-1.0	Very long	Rare	---	None
		November	0.0	>6.0	0.0-1.0	Very long	Occasional	---	None
		December	0.0	>6.0	0.0-1.0	Very long	Occasional	---	None
406: Yobe-----	C	January	3.0-5.0	>6.0	---	---	None	Long	Occasional
		February	3.0-5.0	>6.0	---	---	None	Long	Occasional
		March	3.0-5.0	>6.0	---	---	None	Long	Occasional
		April	3.0-5.0	>6.0	---	---	None	Long	Occasional
407: Zorravista-----	A	Jan-Dec	---	---	---	---	None	---	None
408: Zorravista-----	A	Jan-Dec	---	---	---	---	None	---	None
409: Water-----	---	Jan-Dec	---	---	---	---	None	---	None

TABLE 22.--CLASSIFICATION OF THE SOILS

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series.)

Soil name	Family or higher taxonomic class
Almanor-----	Medial-skeletal, amorphous, frigid Typic Haploxerands
Alomax-----	Loamy-skeletal, mixed, superactive, frigid Lithic Haploxerolls
Anawalt-----	Clayey, smectitic, frigid Lithic Xeric Haplargids
Aquolls-----	Aquolls
Ardep-----	Coarse-loamy, mixed, superactive, mesic Durinodic Xeric Haplocalcids
Artray-----	Coarse-loamy, mixed, superactive, mesic Cumulic Endoaquolls
Badenough-----	Loamy-skeletal, mixed, superactive, mesic Aridic Argixerolls
Baileycreek-----	Loamy-skeletal, isotic, frigid Andic Haploxeralfs
Barnard-----	Fine, smectitic, mesic Argiduridic Durixerolls
Beckwourth-----	Coarse-loamy, mixed, superactive, mesic Oxyaquic Argixerolls
Bieber-----	Clayey, smectitic, mesic, shallow Argiduridic Durixerolls
Biscaro-----	Fine, smectitic, mesic Durinodic Xeric Paleargids
Blickenstaff-----	Coarse-loamy, mixed, superactive, mesic Aridic Calcixerolls
Bobert-----	Fine-loamy, mixed, superactive, mesic Durinodic Xeric Natrargids
Bonta-----	Coarse-loamy, mixed, superactive, frigid Typic Haploxeralfs
*Bonta-----	Coarse-loamy, mixed, superactive, mesic Typic Haploxeralfs
Boulder Lake-----	Fine, smectitic, frigid Xeric Epiaquerts
Bruback-----	Fine, smectitic, mesic Aridic Haploxererts
Buckbay-----	Fine-loamy, mixed, superactive, mesic Vitrandic Argixerolls
Bucklake-----	Fine, smectitic, mesic Aridic Argixerolls
Bunanch-----	Clayey-skeletal, smectitic, mesic Mollic Palaxeralfs
Cagwin-----	Mixed, frigid Dystric Xeropsamments
Calnat-----	Fine-loamy, mixed, superactive, mesic Xeric Natrargids
Calneva-----	Fine, smectitic, mesic Typic Natrargids
Calpine-----	Coarse-loamy, mixed, superactive, mesic Aridic Haploxerolls
Capona-----	Fine-loamy, mixed, superactive, mesic Aridic Haploxerolls
Cawat-----	Loamy-skeletal, mixed, superactive, mesic Xeric Haplocambids
Calco-----	Clayey, smectitic, mesic, shallow Xeric Haplargids
Chappuis-----	Fine, smectitic, mesic Xeric Natrargids
Chimney-----	Mixed, mesic Typic Xeropsamments
Chirpchatte-----	Fine-loamy, mixed, superactive, mesic Ultic Argixerolls
Cleghorn-----	Fine-loamy, mixed, superactive, mesic Durinodic Xeric Haplargids
Cochran-----	Clayey-skeletal, smectitic, mesic Aridic Argixerolls
Corral-----	Loamy, mixed, superactive, mesic, shallow Xeric Haplargids
*Deadwood-----	Loamy-skeletal, mixed, superactive, frigid Lithic Dystroxerepts
Devada-----	Clayey, smectitic, mesic Lithic Argixerolls
Diaz-----	Fine, smectitic, mesic Xeric Haplargids
*Dotta-----	Fine-loamy, mixed, superactive, frigid Pachic Argixerolls
Dryvalley-----	Fine, smectitic, mesic Xerertic Haplargids
Duco-----	Loamy-skeletal, mixed, superactive, mesic Lithic Argixerolls
Eaglelake-----	Fine-loamy, isotic, frigid Ultic Haploxeralfs
Easte-----	Loamy-skeletal, isotic, frigid Vitrandic Haploxerepts
Epot-----	Fine-silty, mixed, superactive, mesic Typic Natrargids
Fiddler-----	Clayey-skeletal, smectitic, mesic Typic Argixerolls
Fivesprings-----	Clayey-skeletal, smectitic, mesic Aridic Argixerolls
Fluvents-----	Fluvents
Fordney-----	Mixed, mesic Torripsammentic Haploxerolls
*Forgay-----	Loamy-skeletal, mixed, superactive, frigid Humic Dystroxerepts
Fortstage-----	Coarse-loamy, mixed, superactive, nonacid, mesic Oxyaquic Torrifluvents
Fraval-----	Loamy-skeletal, mixed, superactive, frigid Ultic Argixerolls
Fredonyer-----	Loamy-skeletal, isotic, frigid Vitrandic Haploxerolls
Fulstone-----	Clayey, smectitic, mesic, shallow Abruptic Xeric Argidurids
Galeppi-----	Fine-loamy, mixed, superactive, mesic Argiduridic Argixerolls
Gavel-----	Loamy-skeletal, isotic, mesic Vitandic Argixerolls
Gerlach-----	Fine, smectitic, mesic Aridic Haploxererts
Gerle-----	Coarse-loamy, mixed, superactive, frigid Humic Dystroxerepts
Glean-----	Loamy-skeletal, mixed, superactive, frigid Pachic Haploxerolls
Glenbrook-----	Mixed, mesic, shallow Xeric Torripsamments
Graufels-----	Mixed, mesic Torripsammentic Haploxerolls
Hagata-----	Fine, smectitic, mesic Xeric Paleargids
Hangtown-----	Loamy-skeletal, mixed, superactive, frigid Typic Dystroxerepts
Hapgood-----	Loamy-skeletal, mixed, superactive Pachic Haplocryolls

TABLE 22.--CLASSIFICATION OF THE SOILS--Continued

Soil name	Family or higher taxonomic class
Hart Camp-----	Loamy, mixed, superactive, frigid, shallow Aridic Argixerolls
Haypress-----	Mixed, frigid Psammentic Haploxerolls
Herjun-----	Coarse-loamy, mixed, superactive, calcareous, mesic Oxyaquic Torriorthents
Herlong-----	Loamy, mixed, superactive, mesic Lithic Haplocalcids
Highrock-----	Fine-loamy, mixed, superactive, mesic Typic Natrargids
*Home Camp-----	Clayey-skeletal, smectitic, frigid Aridic Argixerolls
Honeylake-----	Coarse-loamy, mixed, superactive, mesic Oxyaquic Calcixerolls
Honlak-----	Fine-loamy, mixed, superactive, mesic Aquic Natrargids
Horsecamp-----	Fine, smectitic, mesic Aridic Haploxererts
Humboldt-----	Fine, smectitic, calcareous, mesic Fluvaquentic Endoaquolls
Hunnton-----	Fine, smectitic, mesic Xeric Argidurids
Hutchley-----	Loamy-skeletal, mixed, superactive, frigid Lithic Argixerolls
Incy-----	Mixed, mesic Xeric Torripsamments
Indiano-----	Fine-loamy, mixed, superactive, mesic Aridic Argixerolls
Inville-----	Loamy-skeletal, isotic, frigid Ultic Haploxeralfs
Janile-----	Sandy-skeletal, mixed, mesic Dystric Xerorthents
Jauriga-----	Fine-loamy, mixed, superactive, mesic Vitrandic Argixerolls
Keddie-----	Fine-loamy, mixed, superactive, mesic Cumulic Endoaquolls
*Keddie-----	Fine-loamy, mixed, superactive, frigid Cumulic Endoaquolls
Ladd-----	Fine-loamy, mixed, superactive, mesic Typic Argixerolls
Lakeview-----	Fine-loamy, mixed, superactive, mesic Cumulic Haploxerolls
Lasco-----	Coarse-loamy, mixed, superactive, frigid Ultic Haploxeralfs
Lieberman-----	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Sodic Haplocalcids
Lodico-----	Fine, smectitic, mesic Xeric Paleargids
Longcreek-----	Clayey-skeletal, smectitic, mesic Lithic Argixerolls
Loomis-----	Clayey-skeletal, smectitic, mesic Lithic Xeric Haplargids
Madelaine-----	Clayey, smectitic, frigid Lithic Argixerolls
Mahala-----	Fine, smectitic, mesic Vertic Paleargids
Massack-----	Coarse-loamy, mixed, superactive, mesic Cumulic Endoaquolls
Mazuma-----	Coarse-loamy, mixed, superactive, calcareous, mesic Typic Torriorthents
McConnel-----	Sandy-skeletal, mixed, mesic Xeric Haplocambids
McDermott-----	Fine-silty, mixed, superactive, mesic Xeric Natrargids
Modoc-----	Fine-loamy, mixed, superactive, mesic Argiduridic Durixerolls
Mottsville-----	Mixed, mesic Torripsammentic Haploxerolls
Mountmed-----	Fine, smectitic, frigid Fluvaquentic Vertic Endoaquolls
*Newlands-----	Fine-loamy, mixed, superactive, frigid Aridic Argixerolls
Ninekar-----	Fine, smectitic, mesic Xerertic Haplargids
Ninemile-----	Clayey, smectitic, frigid Lithic Argixerolls
Observation-----	Fine, smectitic, frigid Typic Argixerolls
Orhood-----	Loamy-skeletal, mixed, superactive, mesic Lithic Argixerolls
Orr-----	Fine-loamy, mixed, superactive, mesic Aridic Argixerolls
Outland-----	Loamy-skeletal, isotic, frigid Vitrandic Haploxeralfs
Papeek-----	Fine, smectitic, mesic Vertic Haploxeralfs
Penstock-----	Loamy-skeletal, mixed, superactive, frigid Ultic Palaxeralfs
Pequop-----	Loamy-skeletal, mixed, superactive, frigid Typic Argixerolls
Petescreek-----	Fine-loamy, mixed, superactive, frigid Pachic Ultic Haploxerolls
Pickup-----	Clayey-skeletal, smectitic, mesic Aridic Argixerolls
*Pit-----	Fine, smectitic, mesic Xeric Epiquerts
Plinco-----	Coarse-loamy, mixed, superactive, mesic Cumulic Haploxerolls
Puls-----	Clayey, smectitic, mesic, shallow Abruptic Xeric Argidurids
Quartzburg-----	Sandy-skeletal, mixed, frigid Dystric Xerorthents
Ragtown-----	Fine, smectitic, calcareous, mesic Typic Torriorthents
Ravendale-----	Fine, smectitic, mesic Chromic Haploxererts
Redriver-----	Loamy-skeletal, isotic, frigid Andic Haploxerepts
Rices-----	Fine-silty, mixed, superactive, mesic Aquic Calcixerolls
Roop-----	Loamy-skeletal, isotic, frigid Vitrandic Dystroxerepts
Rose Creek-----	Coarse-loamy, mixed, superactive, calcareous, mesic Fluvaquentic Endoaquolls
Saddlerock-----	Fine, smectitic, mesic Fluvaquentic Vertic Endoaquolls
Said-----	Fine-loamy, isotic, frigid Andic Argixerolls
Scaribou-----	Loamy-skeletal, mixed, active, frigid Ultic Palaxeralfs
Searles-----	Loamy-skeletal, mixed, superactive, mesic Aridic Argixerolls
Shinnpeak-----	Loamy-skeletal, mixed, superactive, mesic, shallow Xeric Argidurids
Smocreek-----	Fine-silty, mixed, superactive, mesic Fluventic Haploxerolls
Softscrabble-----	Loamy-skeletal, mixed, superactive, frigid Pachic Argixerolls

TABLE 22.--CLASSIFICATION OF THE SOILS--Continued

Soil name	Family or higher taxonomic class
Southpac-----	Loamy-skeletal, isotic, mesic Vitrandic Haploxeralfs
Springmeyer-----	Fine-loamy, mixed, superactive, mesic Aridic Argixerolls
Stacy-----	Coarse-loamy, mixed, superactive, mesic Duridic Haploxerolls
Standish-----	Fine, smectitic, mesic Xeric Natrargids
Stiles-----	Fine-loamy, mixed, superactive, mesic Xeric Calciargids
Sumine-----	Loamy-skeletal, mixed, superactive, frigid Aridic Argixerolls
Susanville-----	Fine, smectitic, mesic Vertic Natrixerolls
Swainow-----	Medial-skeletal, mixed, frigid Ultic Haploxerands
Tahand-----	Fine-loamy, isotic, frigid Andic Haploxeralfs
Tanob-----	Coarse-loamy, mixed, superactive, frigid Ultic Argixerolls
Termo-----	Very-fine, smectitic, mesic Vertic Natrargids
Toiyabe-----	Mixed, frigid, shallow Typic Xeropsamments
Torriorrhents-----	Xeric Torriorrhents
Toulon-----	Sandy-skeletal, mixed, mesic Typic Haplocambids
Truax-----	Fine-loamy, mixed, superactive, mesic Aridic Argixerolls
Truckee-----	Fine-loamy, mixed, superactive, mesic Fluvaquentic Haploxerolls
Tunnison-----	Very-fine, smectitic, mesic Aridic Haploxererts
Ulhalf-----	Fine-loamy, isotic, mesic Vitrandic Haploxeralfs
Verdico-----	Fine, smectitic, mesic Vertic Paleargids
Wafila-----	Fine-loamy, mixed, superactive, frigid Ultic Haploxeralfs
Waterman-----	Sandy-skeletal, mixed, mesic Lithic Xerorhents
Wespac-----	Fine-loamy, mixed, superactive, mesic Xeric Natrargids
Weste-----	Loamy-skeletal, isotic, frigid Andic Haploxeralfs
Whitinger-----	Loamy-skeletal, mixed, superactive, mesic Typic Argixerolls
Whorled-----	Medial-skeletal, amorphic, frigid Typic Haploxerands
Woodwest-----	Medial-skeletal, amorphic, frigid Lithic Haploxerands
Wylo-----	Clayey, smectitic, mesic Lithic Argixerolls
Xerolls-----	Cumulic Haploxerolls
Yobe-----	Fine-silty, mixed, superactive, calcareous, mesic Aeris Halaquepts
Zephan-----	Clayey-skeletal, smectitic, mesic Xeric Haplargids
Zorravista-----	Mixed, mesic Xeric Torripsamments

Appendices

Appendix A is an excerpt from California supplement CA-4 to the National Conservation Planning Manual, dated February 1981, United States Department of Agriculture, Soil Conservation Service.

Appendix B includes guides for assigning land capability classes, subclasses, and units. The original documentation is a California supplement dated November 1969. Any revisions are noted in the Appendix.

Appendix C lists the plants encountered within the soil survey area. This aids in correct plant identification and serves as a cross-reference to plant species listed in other tables and narratives throughout this soil survey report. The local common name refers to the most frequently used plant common name within the geographic area. For the scientific name, the plant synonymy as reported in the USDA-NRCS National Plants Database at the time of publication is used. The plant symbol is a nationally recognized 5 character symbol specific to each taxonomically unique plant species, and is established through the National Plants Database.

Appendix A.—Prime Farmlands, California

Prime farmland is land best suited for producing food, forage, fiber, and oilseed crops and also available for these uses (the land could be cropland, pastureland, rangeland, forest land, or other land but not urban buildup land or water). It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when treated and managed, including water management, according to modern farming methods.

Prime farmland meets all of the following criteria:

1. The soils have:

- a) Aquic, udic, ustic, or xeric moisture regimes and an available water capacity of at least 4 inches (10 cm) per 40 to 60 inches (1 to 1.52 meters) of soil to produce the commonly grown cultivated crops (cultivated crops include, but are not limited to, grain, forage, fiber, oilseed, sugarbeets, vegetables, orchard, vineyard, and bush fruit crops) adapted to the region in 7 or more years out of 10; or
- b) Xeric, ustic, aridic, or torric moisture regimes in which the available water capacity is at least 4 inches (10 cm) per 40 to 60 inches (1 to 1.52 meters) of soil and the area has a developed irrigation water supply that is dependable (a dependable water supply is one in which enough water is available for irrigation in 8 out of 10 years for the crops commonly grown) and of adequate quality; and

2. The soils have a temperature regime that is frigid, mesic, thermic, or hyperthermic (pergelic and cryic regimes are excluded). These are soils that, at a depth of 20 inches (50 cm), have a mean annual temperature higher than 32 degrees F (0 degrees C). In addition, the mean summer temperature at this depth in soils with an O horizon is higher than 47 degrees F (8 degrees C); in soils that have no O horizon, the mean

summer temperature is higher than 59 degrees F. (15 degrees C); and,

- 3. The soils have a pH between 4.5 and 8.4 in all horizons within a depth of 40 inches (1 meter); and,
- 4. The soils either have no water table or have a water table that is maintained at a sufficient depth during the cropping season to allow cultivated crops common to the area to be grown; and
- 5. The soils can be managed so that, in all horizons within a depth of 40 inches (1 meter) during part of each year the conductivity of the saturation extract is less than 4 mmhos/cm and the exchangeable sodium percentage (ESP) is less than 15; and,
- 6. The soils are not flooded frequently during the growing season (less often than once in 2 years); and,
- 7. The product of K (erodibility factor) x percent slope is less than 2.0; and,
- 8. The soils have a permeability rate of at least 0.06 inch (0.15 cm) per hour in the upper 20 inches (50 cm) and the mean annual soil temperature at a depth of 20 inches (50 cm) is less than 59 degrees F (15 degrees C); the permeability rate is not a limiting factor if the mean annual soil temperature is 59 degrees F (15 degrees C) or higher; and,
- 9. Less than 10 percent of the surface layer [upper 6 inches (15 cm)] in these soils consists of rock fragments coarser than 3 inches (7.6); and;
- 10. The soils have a minimum rooting depth of 40 inches (1 meter).

*The national Land Inventory Monitoring (LIM) definitions have been slightly modified for California standards: Criterion 1 is a California definition, not a national one. Part A which reads "AWC of at least 4 inches (10 cm), per 40 to 60 inches (1 to 1.52 meters) of soil" is a California definition.

Appendix B.—Guide for Placing Soils in Capability Classes

Criteria	Capability Class							
	1	2	3	4	5	6 ¹²	7 ¹³	8 ¹⁴
Effective Soil Depth (in) ¹	≥ 40	≥ 40	≥ 20	≥ 10	≥ 20	≥ 10	Any	Any
ETp 32 degrees F.....	≥ 20	≥ 14	≥ 10	≥ 6	≥ 6	≥ 4	---	Any
4ETa.....	≥ 20	≥ 16	≥ 12	≥ 8	≥ 8	≥ 6	≥ 2	Any
Surface texture (irrigated)	SL-CL	LS-C, may be GR	Any, may be GR, CB	Any, may be GRV, CBV, ST ¹⁰	Any, may be GRX, CBX, STV	Any, may be GRX, CBX, STV	Any	Any
Surface texture (nonirrigated)	SL-CL	SL-C, may be GR	SL-C, may be GR, CB	LS-C, GRV, CBV, ST ¹⁰	Any, may be GRX, CBX, STV	Any, may be GRX, CBX, STV	Any	Any
Permeability (in/hr) ²	0.2-6.0	0.06-20	< 0.06-20	Any	Any	Any	Any	Any
Drainage class.....	Well or Moderately well	Somewhat Poorly through Somewhat Excessively	Poorly through Excessively	Poorly through Excessively	Any	Any	Any	Any
Depth to water Table (in) ³	> 60	> 36	> 20	> 20	Any	Any	Any	Any
Available water Capacity (in) ⁴	7.5 – 0.13	5.0 – 0.08	3.5 – 0.06	2.5 – 0.04	3.0	2.0	1.0	Any
Slope (%) ^{5, 6, 7}								
Group A.....	< 2	< 5	< 8	< 15	< 2	< 25	< 50	Any
Group B.....	< 2	< 8	< 15	< 25	< 2	< 50	< 75	Any
Erosion hazard	None or Slight	None through Moderate	None through High	Any	None or Slight	Any	Any	Any
Flooding.....	None	None through Occasional	None through Occasional	None through Frequent ¹¹	Any Any	Any Any	Any Any	Any Any
Salinity/EC x 10 at 25 °C (mmhos/cm) ⁸	< 4	< 8	< 16	< 16	< 8	Dryland, < 16 Irrigated, Any	Any	Any
Alkali ESP ⁸	None	< 25	< 50	< 50	< 25	Dryland, < 25 Irrigated, < 50	Any	Any
Toxic substances ⁹	None	None or Slight	None through Moderate	None through Moderate	None or Slight	Dryland, Slight Irrigated, Slight through Moderate	Any	Any
Frost-free Season 32 °F.....	> 140 days	> 100 days	> 80 days	> 50 days	Any	Any	Any	Any

1. Claypans with permeability of less than 0.06 inch/hour will be treated as limiting the effective depth.
2. Permeability of the least permeable subsurface horizon.
3. Depth to the water table during the growing season.
4. Available moisture between field capacity and wilting point.
5. Use erosion hazard to help determine upper slope percent.
6. In existing mapping units 9 percent and 30 percent can be substituted for 8 percent and 25 percent.
7. Column A includes soils with K factors of 0.37 or more and soils that are subject to rill and gully erosion, such as soils that formed in granitic material and soils that have a claypan. Other soils are in group B.

8. For salts and alkali to be a major limitation, there should be other soil limitations, such as slow permeabilities or high water tables.
9. Such as boron and magnesium, which are leached with difficulty.
10. Coarse fragments interfere with tillage but do not prevent cropping.
11. Frequent flooding that does not prevent normal cropping.
12. Range and woodland mechanical practices can be applied to class VI land.
13. Range and woodland mechanical practices are impractical on class VII land.
14. Class 8 land have limitations that preclude their use for commercial plant production and restrict their use to recreation, water supply, or esthetic purposes.

Appendix C.--Index of Plant Common and Scientific Names and Plant Symbols

Local Common Name	Scientific Name	Plant Symbol
alkaligrass	Puccinellia spp.	PUCCI1
alligator juniper	Juniperus deppeana	JUDE2
American elm	Ulmus americana	ULAM
American plum	Prunus americana	PRAM
Anderson peachbrush	Prunus andersonii	PRAN2
antelope bitterbrush	Purshia tridentata	PUTR2
arrowleaf balsamroot	Balsamorhiza sagittata	BASA3
arroyo willow	Salix lasiolepis	SALA6
Austrian pine	Pinus nigra	PINI
autumn olive	Elaeagnus umbellata	ELUM
balsamroot	Balsamorhiza spp.	BALSA
basin big sagebrush	Artemisia tridentata ssp. tridentata	ARTRT
basin wildrye	Leymus cinereus	LECI4
bastardsage	Eriogonum wrightii var. trachygonum	ERWRT2
beardless wildrye	Leymus triticoides	LETR5
big sagebrush	Artemisia tridentata	ARTR2
bitterbrush	Purshia spp.	PURSH
black greasewood	Sarcobatus vermiculatus	SAVE4
black locust	Robinia pseudoacacia	ROPS
black sagebrush	Artemisia nova	ARNO4
blue spruce	Picea pungens	PIPU
blueberry elder	Sambucus glauca	SAGL14
bluebunch wheatgrass	Pseudoroegneria spicata	PSSP6
bluegrass	Poa spp.	POA
bottlebrush squirreltail	Elymus elymoides	ELEL5
bottlebrush squirreltail	Elymus elymoides ssp. elymoides	ELEL5
boxelder	Acer negundo	ACNE2
buckwheat	Eriogonum spp.	ERIOG
bud sagebrush	Artemisia spinescens	ARSP5
Canby bluegrass	Poa secunda	POCA
clubmoss	Lycopodium spp.	LYCOP2
common chokecherry	Prunus virginiana	PRVI
common hackberry	Celtis occidentalis	CEOC
common juniper	Juniperus communis	JUCO6
common lilac	Syringa vulgaris	SYVU
cotoneaster	Cotoneaster spp.	COTON
cottonwood	Populus spp.	POPUL
curl-leaf mountain mahogany	Cercocarpus ledifolius	CELE3
desert bitterbrush	Purshia glandulosa	PUGL2
desert needlegrass	Achnatherum speciosum	ACSP12
desert peach	Prunus fasciculata	PRFA
eastern arborvitae	Thuja occidentalis	THOC2
eastern cottonwood	Populus deltoides	PODE3
flowering crabapple	Malus floribunda	MAFL80
forsythia	Forsythia spp.	FORSY
fourwing saltbush	Atriplex canescens	ATCA2
Fremont's cottonwood	Populus fremontii	POFR2
globemallow	Sphaeralcea spp.	SPHAR
golden currant	Ribes aureum	RTAU
golden willow	Salix alba var. vitellina	SAALV
green ash	Fraxinus pennsylvanica	FRPE
green ephedra	Ephedra viridis	EPVI
honeylocust	Gleditsia triacanthos	GLTR
Idaho fescue	Festuca idahoensis	FEID
incense cedar	Calocedrus decurrens	CADRE27
Indian ricegrass	Achnatherum hymenoides	ACHY
inland saltgrass	Distichlis spicata	DISP
Jeffrey pine	Pinus jeffreyi	PIJE
Lahontan sagebrush	Artemisia arbuscula ssp. longicaulis	ARARL3
lake quillwort	Isoetes lacustris	ISLA
Lemmon needlegrass	Achnatherum lemmonii var. lemmonii	ACLEL
lesser spikemoss	Selaginella densa	SEDE2
littleleaf horsebrush	Tetradymia glabrata	TEGL
Lombardy poplar	Populus nigra var. italica	PONII
longleaf hawksbeard	Crepis acuminata	CRAC2
low sagebrush	Artemisia arbuscula	ARAR8
lupine	Lupinus spp.	LUPIN
mat muhly	Muhlenbergia richardsonis	MURI
mountain big sagebrush	Artemisia tridentata ssp. vaseyana	ARTRV
mountain brome	Bromus marginatus	BRMA4
multiflora rose	Rosa multiflora	ROMU
Nanking cherry	Prunus tomentosa	PRT080
narrowleaf cottonwood	Populus angustifolia	POAN3
needleandthread	Hesperostipa comata	HECO26
needleandthread	Hesperostipa comata ssp. comata	HECOC8
needlegrass	Stipa spp.	STIPA
Nevada bluegrass	Poa secunda	PONE3
Norway spruce	Picea abies	PIAB
Obsolete	Juniperus occidentalis	JUOC6
oceanspray	Holodiscus spp.	HOLOD
other annual forbs	unknown	AAFF
other perennial forbs	unknown	PPFF
other perennial grasses	unknown	PPGG
other shrubs	unknown	SSSS
Peking cotoneaster	Cotoneaster acuminata	COAC2

Appendix C.--Index of Plant Common and Scientific Names and Plant Symbols

Local Common Name	Scientific Name	Plant Symbol
ponderosa pine	<i>Pinus ponderosa</i>	PIPO
pyracantha	<i>Pyracantha</i> spp.	PYRAC
rabbitbrush	<i>Chrysothamnus</i> spp.	CHRY9
redosier dogwood	<i>Cornus sericea</i> ssp. <i>sericea</i>	COS9S
robusta cottonwood	<i>Populus X robusta</i>	PORC11
Rocky Mountain juniper	<i>Juniperus scopulorum</i>	JUSC2
rose	<i>Rosa</i> spp.	ROSA5
rubber rabbitbrush	<i>Ericameria nauseosa</i> ssp. <i>nauseosa</i> var. <i>nauseosa</i>	ERNAN5
rush	<i>Juncus</i> spp.	JUNCU
Russian olive	<i>Elaeagnus angustifolia</i>	ELAN
saltbush	<i>Atriplex</i> spp.	ATRI9
sand dropseed	<i>Sporobolus cryptandrus</i>	SPCR
Sandberg bluegrass	<i>Poa secunda</i>	POSE
Scotch pine	<i>Pinus sylvestris</i>	PISY
sedge	<i>Carex</i> spp.	CAREX
seepweed	<i>Suaeda</i> spp.	SUAED
shadscale	<i>Atriplex confertifolia</i>	ATCO
Siberian crabapple	<i>Malus baccata</i>	MABA
Siberian elm	<i>Ulmus pumila</i>	ULPU
Siberian peashrub	<i>Caragana arborescens</i>	CAAR18
Sierran currant	<i>Ribes nevadense</i>	RINE
silver buffaloberry	<i>Shepherdia argentea</i>	SHAR
silver maple	<i>Acer saccharinum</i>	ACSA2
silver sagebrush	<i>Artemisia cana</i>	ARCA13
skunkbush sumac	<i>Rhus trilobata</i>	RHTR
snowberry	<i>Symphoricarpos</i> spp.	SYMPH
spiny hopsage	<i>Grayia spinosa</i>	GRSP
tamarisk	<i>Tamarix</i> spp.	TAMAR2
Tatarian honeysuckle	<i>Lonicera tatarica</i>	LOTA
thornless honeylocust	<i>Gleditsia triacanthos</i> var. <i>inermis</i>	GLTRI
Thurber needlegrass	<i>Achnatherum thurberianum</i>	ACTH7
Utah juniper	<i>Juniperus osteosperma</i>	JUOS
Utah serviceberry	<i>Amelanchier utahensis</i>	AMUT
Webber needlegrass	<i>Achnatherum webberi</i>	ACWE3
western juniper	<i>Juniperus occidentalis</i>	JUOC
western needlegrass	<i>Achnatherum occidentale</i> ssp. <i>occidentale</i>	ACOCO
western wheatgrass	<i>Pascopyrum smithii</i>	PASM
white mulberry	<i>Morus alba</i>	MOAL
white poplar	<i>Populus alba</i>	POAL7
willow	<i>Salix</i> spp.	SALIX
winterfat	<i>Krascheninnikovia lanata</i>	KRLA2
Wyoming big sagebrush	<i>Artemisia tridentata</i> ssp. <i>wyomingensis</i>	ARTRW8
yellow rabbitbrush	<i>Chrysothamnus viscidiflorus</i>	CHVI8

This table aids in correct plant identification and serves as a cross-reference to plant species listed in Table 7. The plant synonymy as reported in the USDA-NRCS National Plants Database at the time of publication is used.

SOIL LEGEND

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
101	Almanor Whorled Inville complex, 0 to 15 percent slopes	181	Dotta gravelly loam, high water table, 0 to 5 percent slopes	262	Ladd sandy loam, 0 to 2 percent slopes	343	Rubble land Fiddler association, 15 to 50 percent slopes
102	Alomax Glean Rock outcrop association, 9 to 50 percent slopes	182	Dryvalley silt loam, sandy substratum, 0 to 2 percent slopes	263	Ladd Bieber complex, 0 to 2 percent slopes	344	Rubble land Longcreek Fivesprings association, 30 to 60 percent slopes
103	Anawalt Ninemile association, 5 to 15 percent slopes	183	Dryvalley Playas complex, 0 to 2 percent slopes	264	Lakeview loam, 0 to 2 percent slopes	345	Rubble land rock outcrop complex, 30 to 70 percent slopes
104	Ardep sandy loam, 0 to 2 percent slopes	184	Eaglelake very gravelly loam, 2 to 9 percent slopes	265	Lakeview loam, warm, 0 to 2 percent slopes	346	Rubble land Weste complex, 5 to 50 percent slopes
105	Ardep loam, 0 to 4 percent slopes	185	Eaglelake Outland Weste complex, 9 to 30 percent slopes	266	Lasco gravelly sandy loam, 2 to 15 percent slopes	347	Saddlerock peat, 0 to 1 percent slopes, ponded
106	Ardep fine sandy loam, saline sodic, 0 to 2 percent slopes	186	Eaglelake Outland Weste complex, 30 to 50 percent slopes	267	Lasco gravelly sandy loam, 30 to 50 percent slopes	348	Saddlerock silty clay, 0 to 2 percent slopes
107	Ardep very fine sand, saline sodic, 0 to 5 percent slopes	187	Eaglelake Outland Weste complex, altered, 9 to 30 percent slopes	268	Lasco gravelly loam, 15 to 30 percent slopes	349	Saddlerock silty clay, drained, 0 to 2 percent slopes
108	Ardep Wespac Zorravista complex, 0 to 5 percent slopes	188	Eaglelake Outland Weste complex, altered, 30 to 50 percent slopes	269	Lasco Bonta complex, 15 to 30 percent slopes	350	Saddlerock Yobe Terno complex, 0 to 2 percent slopes
109	Artray sandy loam, 2 to 9 percent slopes	189	Easte Fredonyer association, 30 to 50 percent slopes	270	Lieberman fine sandy loam, 0 to 2 percent slopes	351	Said gravelly loam, 5 to 30 percent slopes
110	Badenaugh stony sandy loam, 5 to 15 percent slopes	190	Easte Roop complex, 5 to 30 percent slopes	271	Lieberman Herlong complex, 0 to 2 percent slopes	352	Said Fraval complex, 30 to 50 percent slopes
111	Baileycreek Weste complex, 5 to 15 percent slopes	191	Easte Roop complex, 30 to 50 percent slopes	272	Lodico very cobbly silt loam, 2 to 9 percent slopes	353	Said Ninemile association, 2 to 30 percent slopes
112	Baileycreek Weste complex, 15 to 30 percent slopes	192	Epot Playas complex, 0 to 2 percent slopes	273	Longcreek Devada Rubble land complex, 9 to 30 percent slopes	354	Scaribou very gravelly sandy loam, 5 to 30 percent slopes
113	Baileycreek Weste complex, 30 to 50 percent slopes	193	Epot Ragtown Playas complex, 0 to 2 percent slopes	274	Longcreek Devada Rubble land complex, 30 to 50 percent slopes	355	Scanbou Penstock Rock outcrop complex, 50 to 75 percent slopes
114	Barnard stony sandy loam, 2 to 15 percent slopes	194	Fiddler Gavel Rubble land complex, 5 to 30 percent slopes	275	Loomis very cobbly loam, 5 to 30 percent slopes	356	Searles Devada Fivesprings association, 2 to 30 percent slopes
115	Beckwourth Fordney complex, 0 to 2 percent slopes	195	Fiddler Gavel Rubble land association, 30 to 50 percent slopes	276	Loomis Fivesprings association, 5 to 30 percent slopes	357	Searles Devada Rubble land association, 30 to 50 percent slopes
116	Bieber cobbly loam, 2 to 9 percent slopes	196	Fiddler Madeline association, 5 to 30 percent slopes	277	Loomis Rubble land association, 5 to 30 percent slopes	358	Searles Glean association, 5 to 30 percent slopes
117	Biscaro clay loam, 0 to 2 percent slopes, ponded	197	Fiddler Orhood Petescreek association, 5 to 30 percent slopes	278	Madeline Glean Devada association, 9 to 50 percent slopes	359	Searles Glean association, 30 to 50 percent slopes
118	Biscaro Calnat complex, 0 to 2 percent slopes	198	Fivesprings Longcreek association, 9 to 30 percent slopes	279	Madeline Sumine association, 9 to 30 percent slopes	360	Searles Orhood Devada association, 5 to 30 percent slopes
119	Biscaro Playas complex, 0 to 2 percent slopes	199	Fivesprings Longcreek association, 30 to 50 percent slopes	280	Massack loam, 0 to 2 percent slopes	361	Shinnpeak very cobbly loam, 2 to 15 percent slopes
120	Blickenstaff sandy loam, 0 to 2 percent slopes	200	Fivesprings Longcreek Rubble land association 9 to 50 percent slopes	281	Mazuma loamy sand, 0 to 2 percent slopes	362	Smocreek silt loam, sodic, 0 to 2 percent slopes
121	Honeylake clay loam, 0 to 1 percent slopes	201	Fivesprings Rubble land Devada association, 5 to 30 percent slopes	282	Mazuma fine sandy loam, 0 to 2 percent slopes	363	Smocreek silty clay loam, 0 to 2 percent slopes
122	Robert sandy loam, 0 to 2 percent slopes	202	Fivesprings Sumine association, 15 to 50 percent slopes	283	McConnel Mottsville complex, 2 to 9 percent slopes	364	Southpac very stony loam, 30 to 50 percent slopes
123	Robert sandy loam, lake terrace, 0 to 2 percent slopes	203	Fluvents Riverwash complex, 0 to 1 percent slopes	284	Mcdermott silt loam, 0 to 5 percent slopes	365	Springmeyer sandy loam, 0 to 5 percent slopes
124	Bonta coarse sandy loam, 9 to 15 percent slopes	204	Fordney loamy sand, 0 to 2 percent slopes	285	Modoc Truax complex, 0 to 2 percent slopes	366	Springmeyer sandy clay loam, 0 to 2 percent slopes
125	Bonta coarse sandy loam, 15 to 30 percent slopes	205	Fordney loamy fine sand, 0 to 5 percent slopes	286	Mottsville loamy coarse sand, 0 to 2 percent slopes	367	Stacy fine sandy loam, 0 to 2 percent slopes
126	Bonta gravelly sandy loam, 30 to 50 percent slopes	206	Fordney loamy fine sand, wet, 0 to 2 percent slopes	287	Mottsville loamy coarse sand, 2 to 9 percent slopes	368	Standish fine sandy loam, 0 to 2 percent slopes
127	Boulder Lake silty clay, 0 to 1 percent slopes	207	Forgay very gravelly sandy loam, 0 to 2 percent slopes	288	Mottsville gravelly loamy coarse sand, 0 to 2 percent slopes	369	Stiles clay loam, 0 to 5 percent slopes
128	Boulder Lake silty clay, wet, 0 to 1 percent slopes	208	Forgay extremely gravelly sandy loam, 0 to 2 percent slopes	289	Mottsville gravelly loamy coarse sand, 2 to 9 percent slopes	370	Sumine Softscrabble Hutchley association, 15 to 50 percent slopes
129	Brubeck very cobbly clay, 2 to 5 percent slopes	209	Fortstage fine sandy loam, 0 to 2 percent slopes	290	Mottsville gravelly loamy coarse sand, 9 to 15 percent slopes	371	Susanville silt loam, 0 to 2 percent slopes
130	Brubeck very cobbly clay, 5 to 30 percent slopes	210	Fortstage silt loam, 0 to 2 percent slopes	291	Mottsville gravelly loamy coarse sand, 15 to 30 percent slopes	372	Susanville Smocreek complex, 0 to 2 percent slopes
131	Brubeck Diaz association, 2 to 30 percent slopes	211	Fraval Fredonyer Said association, 9 to 30 percent slopes	292	Mottsville Galeppi association, 15 to 50 percent slopes	373	Swainow Almanor Tahand complex, altered, 2 to 30 percent slopes
132	Brubeck Loomis association, 2 to 30 percent slopes	212	Fraval Said complex, 5 to 30 percent slopes	293	Mountmed peat, 0 to 1 percent slopes	374	Swainow Almanor complex, 15 to 30 percent slopes
133	Buckbay Orhood Devada association, 2 to 30 percent slopes	213	Fredonyer Whitingor Orhood association, 30 to 50 percent slopes	294	Mountmed loam, 0 to 2 percent slopes	375	Swainow Redriver complex, 2 to 9 percent slopes
134	Buckbay Orhood Fredonyer association, 5 to 30 percent slopes	214	Fulstone Wylo association, 2 to 30 percent slopes	295	Mountmed clay loam, 0 to 3 percent slopes	376	Swainow Tahand complex, 30 to 50 percent slopes
135	Bucklake Corral Rubble land association, 30 to 50 percent slopes	215	Galeppi sandy loam, 2 to 5 percent slopes	296	Newlands Hapgood association 5 to 30 percent slopes	377	Tahand Bailey creek complex, 5 to 30 percent slopes
136	Bunanch very gravelly loam, 9 to 30 percent slopes	216	Galeppi sandy loam, 5 to 30 percent slopes	297	Ninemile Home Camp Newlands association 2 to 30 percent slopes	378	Tahand Swainow Almanor complex, 2 to 15 percent slopes
137	Cagwin loamy coarse sand, 15 to 30 percent slopes	217	Galeppi Glenbrook complex, 5 to 15 percent slopes	298	Ninemile Petescreek Fiddler association 2 to 30 percent slopes	379	Terno Biscaro complex, 0 to 2 percent slopes
138	Cagwin loamy coarse sand, 30 to 50 percent slopes	218	Gavel stony loam, 5 to 30 percent slopes	299	Ninemile Weste complex, 0 to 9 percent slopes	380	Terno Playas complex, 0 to 1 percent slopes
139	Calnat sandy loam, 0 to 2 percent slopes	219	Gavel Devada complex, 30 to 50 percent slopes	300	Observation Searles Madeline association, 9 to 30 percent slopes	381	Terno Springmeyer Smocreek complex, 0 to 2 percent slopes
140	Calneva silt loam, 0 to 1 percent slopes	220	Gerlach silty clay, 2 to 9 percent slopes	301	Observation Searles Madeline association, 30 to 50 percent slopes	382	Toiyabe Lasco Quartzburg complex, 30 to 50 percent slopes
141	Calneva Playas complex, 0 to 1 percent slopes	221	Gerlach cobbly silty clay, 2 to 9 percent slopes	302	Orhood very stony sandy loam, 5 to 15 percent slopes	383	Toiyabe Lasco complex, 2 to 30 percent slopes
142	Calpine coarse sandy loam, 0 to 5 percent slopes	222	Gerlach Ravendale complex, 0 to 4 percent slopes	303	Orr sandy loam, 0 to 2 percent slopes	384	Torriorthents Zorravista complex, 0 to 2 percent slopes
143	Calpine sandy loam, 0 to 2 percent slopes	223	Gerle sandy loam, 2 to 5 percent slopes	304	Outland very stony loam, 30 to 50 percent slopes	385	Truax sandy loam, 0 to 5 percent slopes
144	Calpine sandy loam, 2 to 5 percent slopes	224	Gerle sandy loam, 30 to 50 percent slopes	305	Outland complex, 5 to 30 percent slopes	386	Truckee loam, 0 to 2 percent slopes
145	Calpine, warm, 0 to 15 percent slopes	225	Gerle complex, 30 to 70 percent slopes	306	Outland Penstock complex, 15 to 30 percent slopes	387	Truckee Humboldt complex, 0 to 2 percent slopes
146	Indiano Chalco complex, 2 to 9 percent slopes	226	Glean very gravelly sandy loam, 5 to 30 percent slopes	307	Outland Penstock complex, 30 to 50 percent slopes	388	Tunnison very cobbly clay, 2 to 9 percent slopes
147	Capona Rock outcrop complex, 2 to 9 percent slopes	227	Glean very gravelly sandy loam, 30 to 50 percent slopes	308	Papeek clay loam, 9 to 30 percent slopes	389	Tunnison Devada association, 2 to 15 percent slopes
148	Cewat very stony fine sandy loam, 5 to 15 percent slopes	228	Glean Searles association, 30 to 50 percent slopes	309	Papeek cobbly clay loam, 30 to 50 percent slopes	390	Tunnison Devada association, 2 to 9 percent slopes
149	Cewat McConnel Toulon association, 2 to 15 percent slopes	229	Glenbrook Graufels Rock outcrop complex, 30 to 60 percent slopes	310	Penstock Deadwood association, 9 to 30 percent slopes	391	Ulhalf gravelly loam, 30 to 50 percent slopes
150	Chappuis coarse sandy loam, 0 to 2 percent slopes	230	Graufels Glenbrook complex, 5 to 30 percent slopes	311	Penstock Deadwood Rock outcrop association, 15 to 50 percent slopes	392	Ulhalf very gravelly loam, 2 to 15 percent slopes
151	Chappuis silt loam, 0 to 2 percent slopes	231	Hagata Playas complex, 0 to 2 percent slopes	312	Penstock Scaribou complex, 5 to 30 percent slopes	393	Ulhalf Gavel complex, 2 to 15 percent slopes
152	Chimney gravelly loamy coarse sand, 2 to 9 percent slopes	232	Hangtown very cobbly sandy loam, 30 to 50 percent slopes	313	Penstock Scaribou complex, 30 to 50 percent slopes	394	Ulhalf Southpac complex, 2 to 30 percent slopes
153	Chimney gravelly loamy coarse sand, 9 to 15 percent slopes	233	Hart Camp Devada Tunnison association, 2 to 15 percent slopes	314	Pequop Observation association, 15 to 30 percent slopes	395	Verdico Chalco association, 2 to 30 percent slopes
154	Chimney Janile Waterman association, 15 to 50 percent slopes	234	Hart Camp Madeline association, 9 to 15 percent slopes	315	Pequop Observation association, 30 to 50 percent slopes	396	Wespac sand, 0 to 2 percent slopes
155	Chimney Janile Waterman association, 50 to 75 percent slopes	235	Haypress Tanob association, 15 to 50 percent slopes	316	Petescreek Bucklake Devada association, 15 to 50 percent slopes	397	Wespac Playas complex, 0 to 2 percent slopes
156	Chimney Waterman association, 9 to 30 percent slopes	236	Herjun loamy sand, 0 to 2 percent slopes	317	Petescreek Devada Searles association, 15 to 50 percent slopes	398	Weste Bailey creek Tahand complex, 5 to 30 percent slopes
157	Chirp chatter sandy loam, 2 to 9 percent slopes	237	Herjun silt loam, 0 to 2 percent slopes	318	Petescreek Devada Searles association, 9 to 30 percent slopes	399	Weste Rock outcrop complex, 30 to 50 percent slopes
158	Cleghorn sandy loam, 0 to 2 percent slopes	238	Highrock Mazuma Wespac association, 0 to 2 percent slopes	319	Petescreek Fredonyer association, 2 to 30 percent slopes	400	Whitingor Devada association, 5 to 30 percent slopes
159	Cleghorn sandy loam, 2 to 5 percent slopes	239	Highrock Wespac Zorravista complex, 0 to 2 percent slopes	320	Petescreek Fredonyer association, 30 to 50 percent slopes	401	Whorled Almanor complex, 15 to 30 percent slopes
160	Cochran gravelly loam, 2 to 15 percent slopes	240	Home Camp Newlands association, 5 to 30 percent slopes	321	Petescreek Orhood Fredonyer association, 9 to 30 percent slopes	402	Wylo Bucklake association, 9 to 50 percent slopes
161	Cochran very cobbly loam, 5 to 15 percent slopes	241	Honlak loam, 0 to 2 percent slopes	322	Petescreek Searles association, 9 to 30 percent slopes	403	Wylo Diaz Brubeck association, 2 to 30 percent slopes
162	Corral sandy loam, 0 to 2 percent slopes	242	Horsecamp cobbly silty clay, 2 to 9 percent slopes	323	Petescreek Searles Orhood association, 9 to 30 percent slopes	404	Wylo Pickup Bucklake association, 9 to 50 percent slopes
163	Corral sandy loam, 2 to 5 percent slopes	243	Horsecamp Brubeck association, 2 to 9 percent slopes	324	Pit clay, 0 to 2 percent slopes	405	Xerolls Aquolls complex, 0 to 2 percent slopes
164	Corral sandy loam, 5 to 15 percent slopes	244	Horsecamp Hunnion complex, 2 to 9 percent slopes	325	Pits and Dumps	406	Yobe silt loam, 0 to 2 percent slopes
165	Corral loam, 30 to 50 percent slopes	245	Horsecamp Mahela. association, 0 to 9 percent slopes	326	Playas	407	Zorravista loamy sand, 0 to 5 percent slopes
166	Corral very cobbly loam, 5 to 30 percent slopes	246	Humboldt silty clay, 0 to 2 percent slopes	327	Plinco gravelly sandy loam, 0 to 2 percent slopes	408	Zorravista sand, 2 to 15 percent slopes
167	Corral Chalco complex, 0 to 2 percent slopes	247	Humboldt silty clay, 0 to 1 percent slopes, occasionally flooded	328	Plinco loam, 2 to 9 percent slopes	409	Water
168	Corral Glenbrook complex, 15 to 50 percent slopes	248	Humboldt silty clay, 0 to 1 percent slopes, ponded	329	Puls very cobbly loam, 2 to 9 percent slopes		
169	Devada Brubeck association, 2 to 9 percent slopes	249	Humboldt silty clay loam, saline, 0 to 2 percent slopes, occasionally flooded	330	Puls Ninek complex, 2 to 9 percent slopes		
170	Devada Bucklake association, 2 to 30 percent slopes	250	Hunnion Shinnpeak association, 2 to 9 percent slopes	331	Puls Tunnison complex, 2 to 9 percent slopes		
171	Devada Fivesprings Rubble land association, 9 to 50 percent slopes	251	Incy fine sand, 0 to 5 percent slopes	332	Quartzburg Scaribou complex, 50 to 75 percent slopes		
172	Devada Gavel complex, 9 to 30 percent slopes	252	Incy fine sand, 5 to 30 percent slopes	333	Ravendale silty clay, 0 to 2 percent slopes		
173	Devada Gavel Whitingor association, 5 to 30 percent	253	Indiano Graufels association, 15 to 30 percent slopes	334	Ravendale silty clay, 0 to 2 percent slopes, occasionally flooded		
174	Devada Glean Sumine association, 30 to 50 percent slopes	254	Indiano Searles association, 5 to 30 percent slopes	335	Ravendale silty clay, 0 to 2 percent slopes, ponded		
175	Devada Longcreek association, 2 to 30 percent slopes	255	Indiano Searles association, 30 to 50 percent slopes	336	Ravendale silty clay, saline, 0 to 1 percent slopes		
176	Devada Orhood Hart Camp association, 5 to 30 percent slopes	256	Indiano Zephan Duco association, 30 to 50 percent slopes	337	Redriver Gerle complex, 2 to 9 percent slopes		
177	Devada Papeek Gavel complex, 30 to 50 percent slopes	257	Inville very gravelly sandy loam, 0 to 5 percent slopes	338	Redriver Weste complex, 2 to 9 percent slopes		
178	Devada Petescreek Fiddler association, 2 to 30 percent slopes	258	Jauriga gravelly loam, 2 to 9 percent slopes	339	Redriver Woodwest Wafia complex, 0 to 9 percent slopes		
179	Devada Rock outcrop association, 2 to 50 percent slopes	259	Jauriga Buckbay Fredonyer association, 5 to 30 percent slopes	340	Rices clay loam, 0 to 2 percent slopes		
180	Dotta gravelly loam, 2 to 9 percent slopes	260	Keddie loam, 0 to 2 percent slopes	341	Rose Creek loam, 0 to 1 percent slopes		
		261	Keddie clay loam, 0 to 1 percent slopes	342	Rose Creek loam, sodic, 0 to 2 percent slopes		

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

National, state, or province	
County or parish	
Minor civil division	
Reservation (national forest or park, state forest or park, and large airport)	
Land grant	
Limit of soil survey (label)	
Field sheet matchline and neatline	

AD HOC BOUNDARY (label)

Small airport, airfield, park, oilfield, cemetery, or flood pool	
--	--

STATE COORDINATE TICK 1 890 000 FEET

LAND DIVISION CORNER (sections and land grants)

ROADS

Divided (median shown if scale permits)	
Other roads	
Trail	

ROAD EMBLEM & DESIGNATIONS

Interstate	
Federal	
State	
County, farm or ranch	

RAILROAD



POWER TRANSMISSION LINE (normally not shown)



PIPE LINE (normally not shown)



FENCE (normally not shown)



LEVEES

Without road	
With road	
With railroad	

DAMS

Large (to scale)	
Medium or Small (Named where applicable)	

PITS

Gravel pit	
Mine or quarry	

MISCELLANEOUS CULTURAL FEATURES

Farmstead, house (omit in urban area) (occupied)	
Church	
School	
Indian mound (label)	
Located object (label)	
Tank (label)	
Wells, oil or gas	
Windmill	
Kitchen midden	

WATER FEATURES

DRAINAGE

Perennial, double line	
Perennial, single line	
Intermittent	
Drainage end	
Canals or ditches	
Double-line (label)	
Drainage and/or irrigation	

LAKES, PONDS AND RESERVOIRS

Perennial	
Intermittent	

MISCELLANEOUS WATER FEATURES

Marsh or swamp	
Spring	
Well, artesian	
Well, irrigation	
Wet spot	

SPECIAL SYMBOLS FOR SOIL SURVEY

SOIL DELINEATIONS AND SYMBOLS

101 343

ESCARPMENTS

Bedrock (points down slope)	
Other than bedrock (points down slope)	

SHORT STEEP SLOPE



GULLY



DEPRESSION OR SINK



SOIL SAMPLE (normally not shown)



MISCELLANEOUS

Blowout	
Clay spot	
Gravelly spot	
Gumbo, slick or scabby spot (sodic)	
Dumps and other similar non soil areas	
Prominent hill or peak	
Rock outcrop (includes sandstone and shale)	
Saline spot	
Sandy spot	
Severely eroded spot	
Slide or slip (tips point upslope)	
Stony spot, very stony spot	

120°52'30"
R. 9 E. R. 10 E.

120°50'00"

120°47'30"

R. 10 E. R. 11 E.

120°45'00"

41°15'00"

41°12'30"

T. 39 N.
T. 38 N.

41°10'00"

41°07'30"



41°15'00"

41°12'30"

T. 39 N.
T. 38 N.

41°10'00"

41°07'30"

R. 9 E. R. 10 E.
120°52'30"

120°50'00"

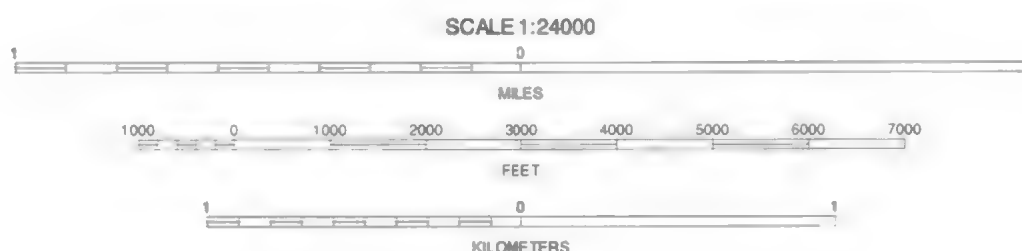
120°47'30"

R. 10 E. R. 11 E.

120°45'00"

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North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

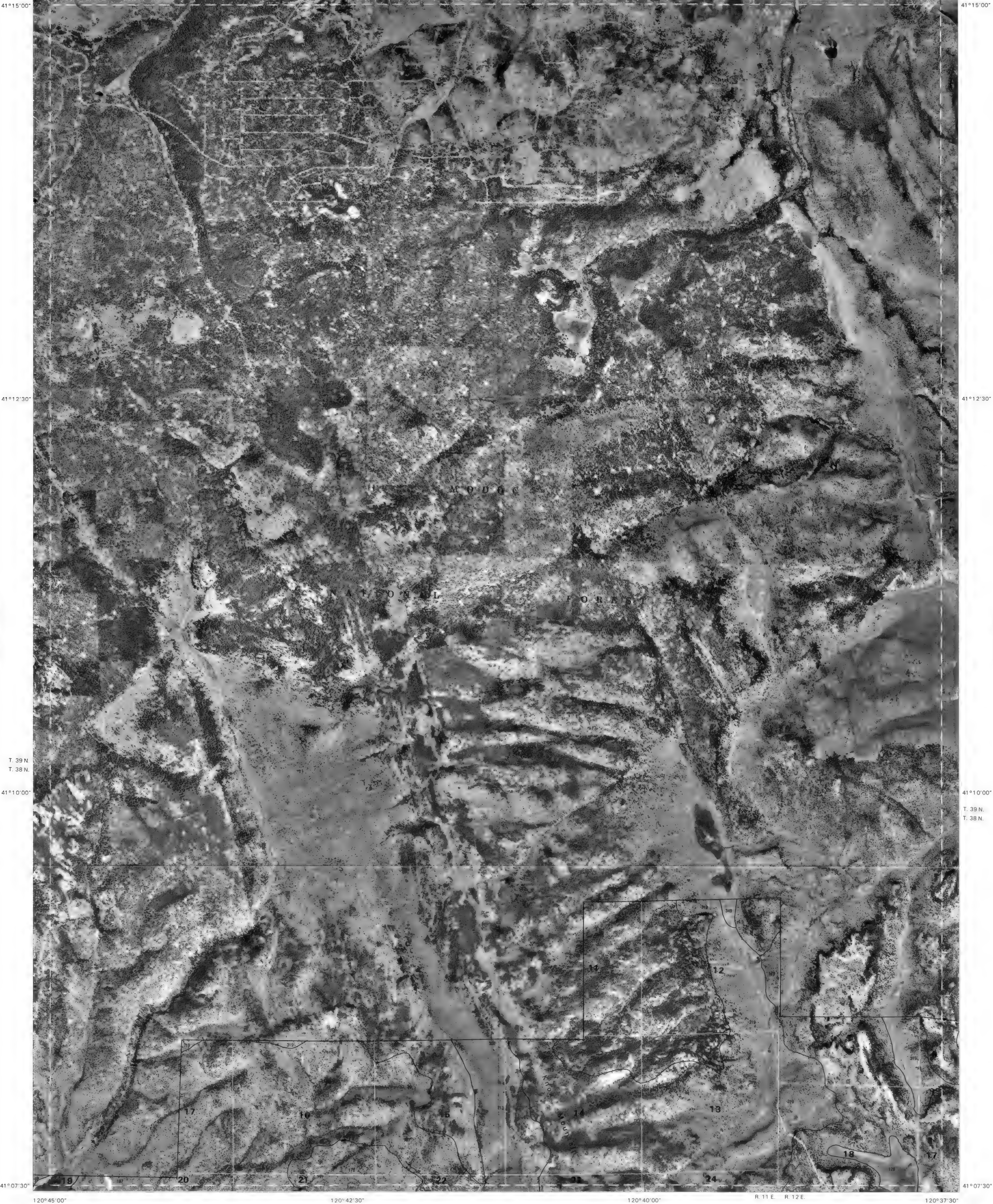
AMBROSE VALLEY, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 1 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

Joins sheet 2, Kinos Mountain

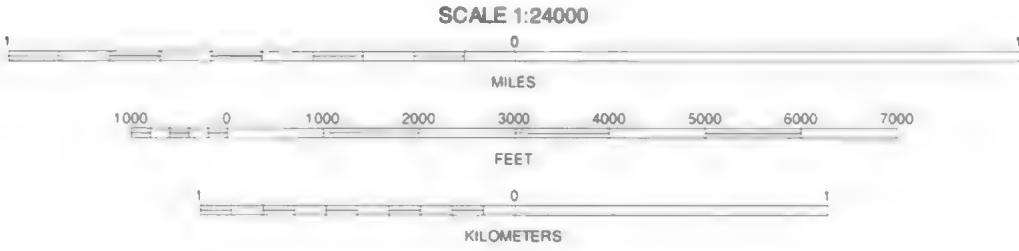
Joins sheet 2, Kinos Mountain

120° 45' 00" 120° 42' 30" 120° 40' 00" R 11 E R 12 E 120° 37' 30"



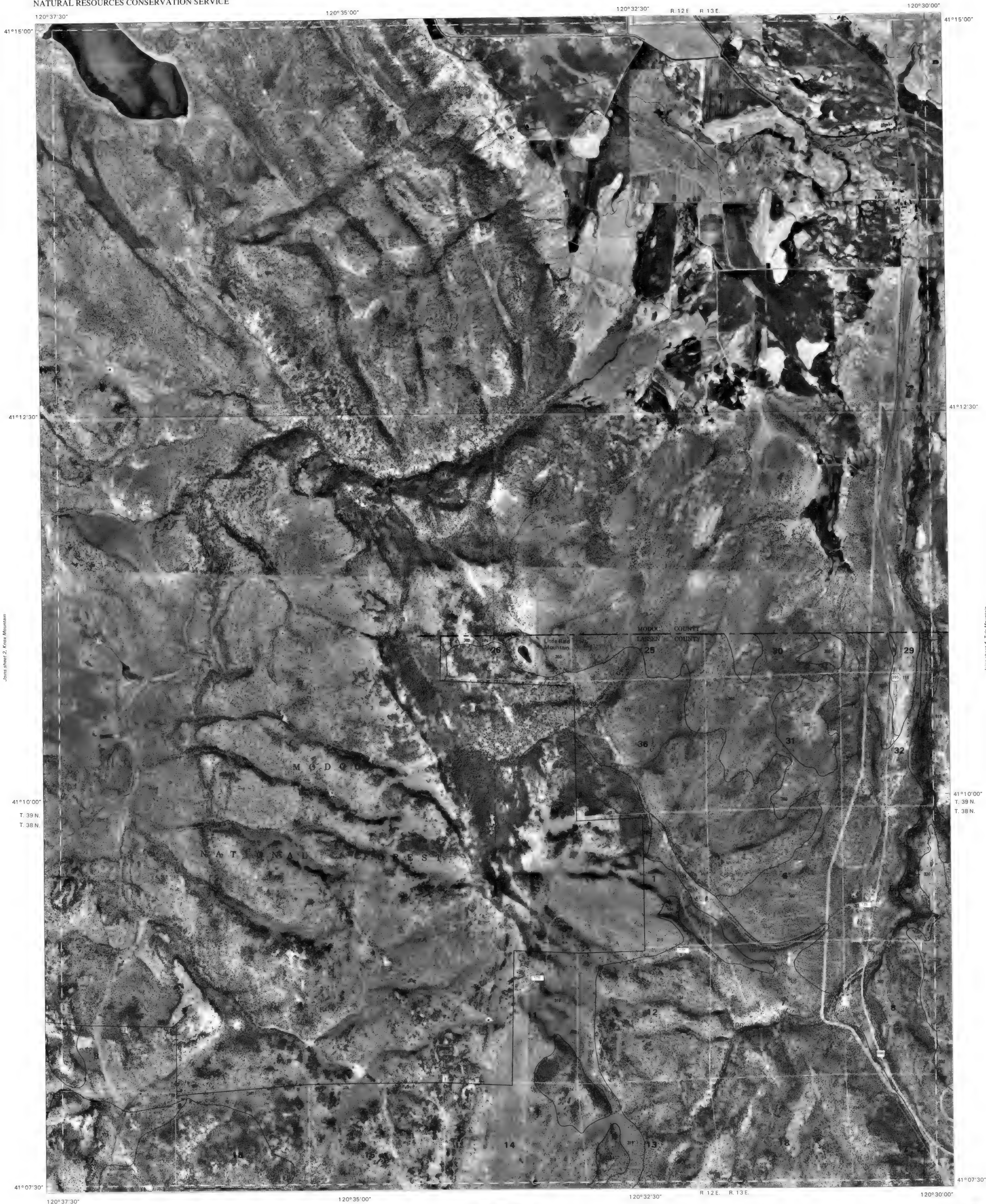
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



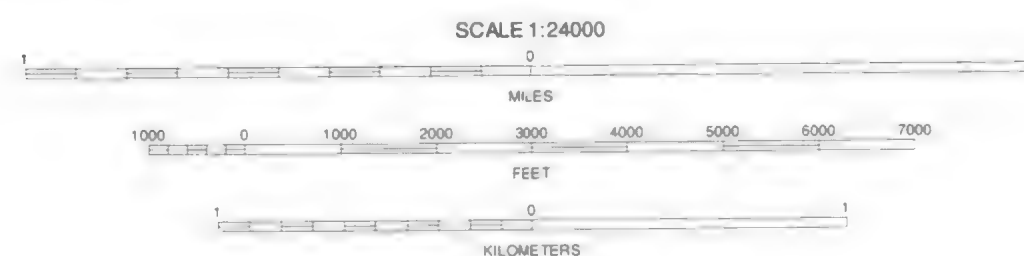
KNOX MOUNTAIN, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 2 OF 83

Soil map delineations extending beyond the dashed white quadrangle neoline are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

LIKELY, CALIFORNIA
7.5-MINUTE SERIES
SHEET NUMBER 3 OF 83

Soil map delineations extending beyond the dashed white quadrangle outline are for reference only and are included on adjacent map sheets.

120°27'30"

120°25'00"
R. 13 E. R. 14 E.

120°22'30"

41°15'00"

41°15'00"

41°12'30"

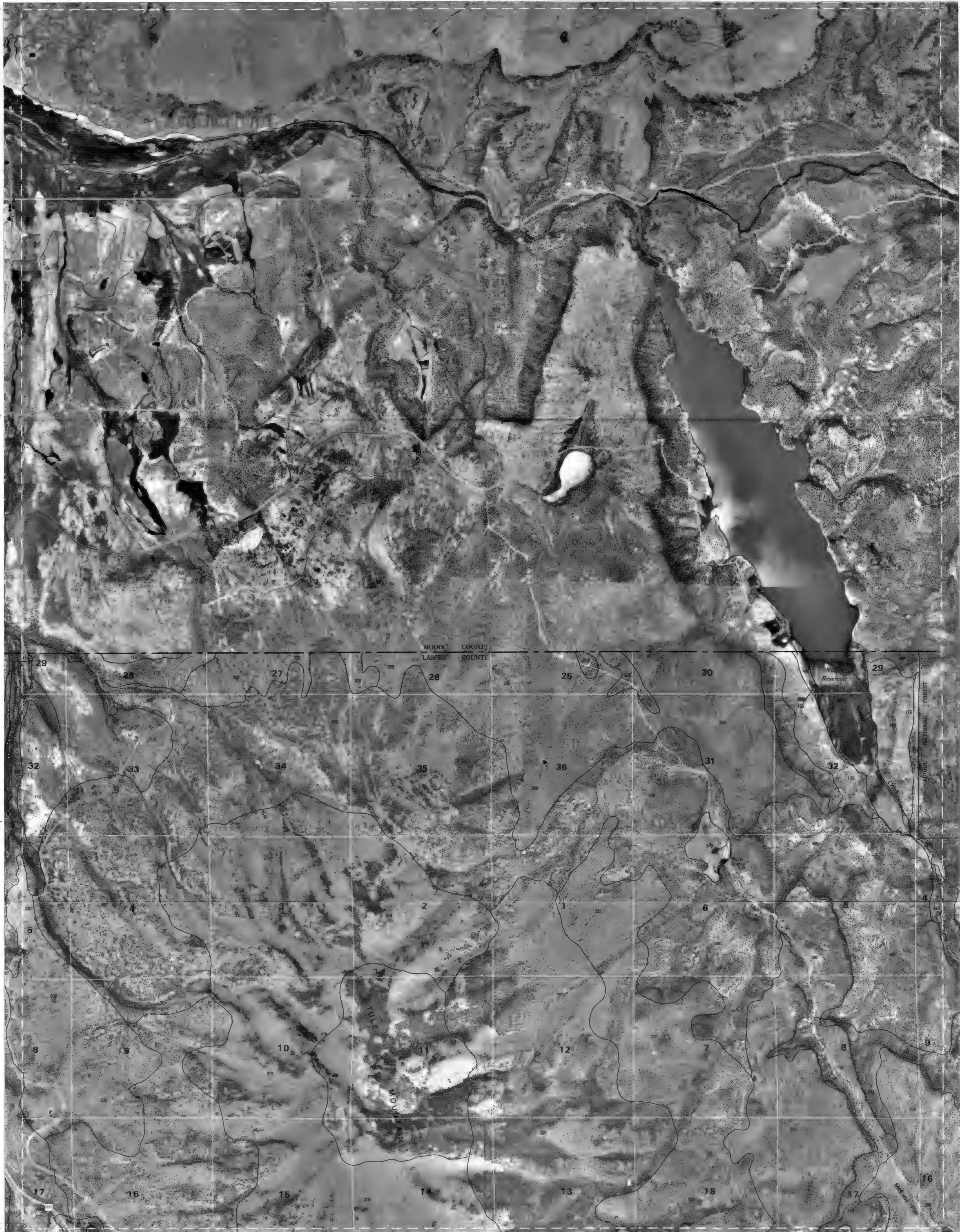
41°12'30"

41°10'00"
T. 39 N.
T. 38 N.

41°10'00"
T. 39 N.
T. 38 N.

41°07'30"

41°07'30"



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North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

Joins sheet 9, Madeline

SCALE 1:24000



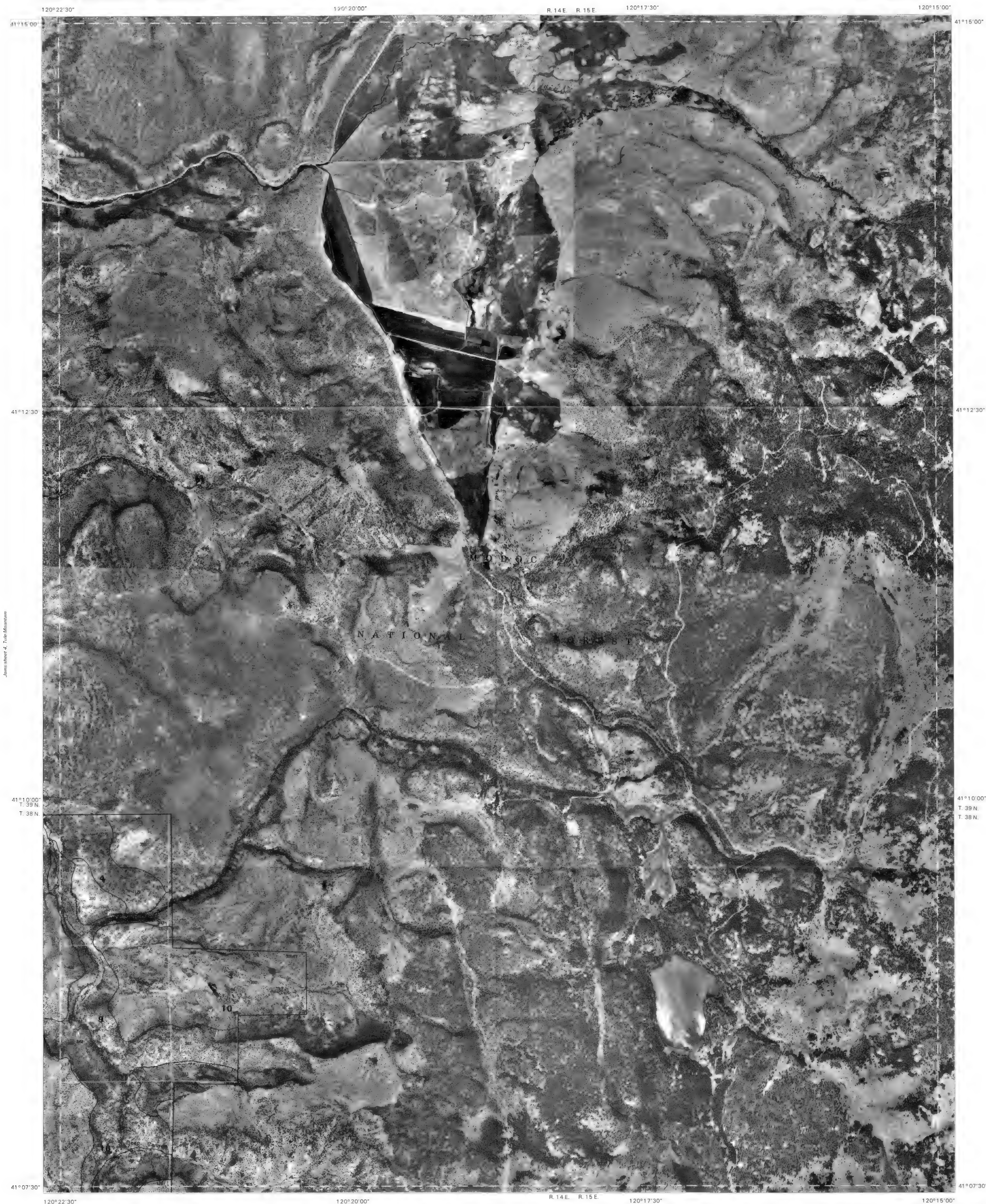
KILOMETERS

QUADRANGLE LOCATION

TULE MOUNTAIN, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 4 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

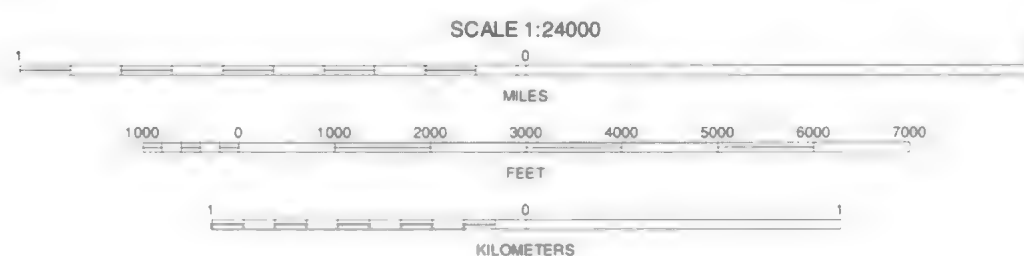
Joins sheet 10
Cold Springs Mountain



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North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION

JESS VALLEY, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 5 OF 83

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

120°52'30"
R. 9 E. R. 10 E.

120°50'00"

Joins sheet 1, Ambrose Valley

120°47'30"

R. 10 E. R. 11 E.

120°45'00"

41°07'30"

41°07'30"

41°05'00"
T. 38 N.
T. 37 N.

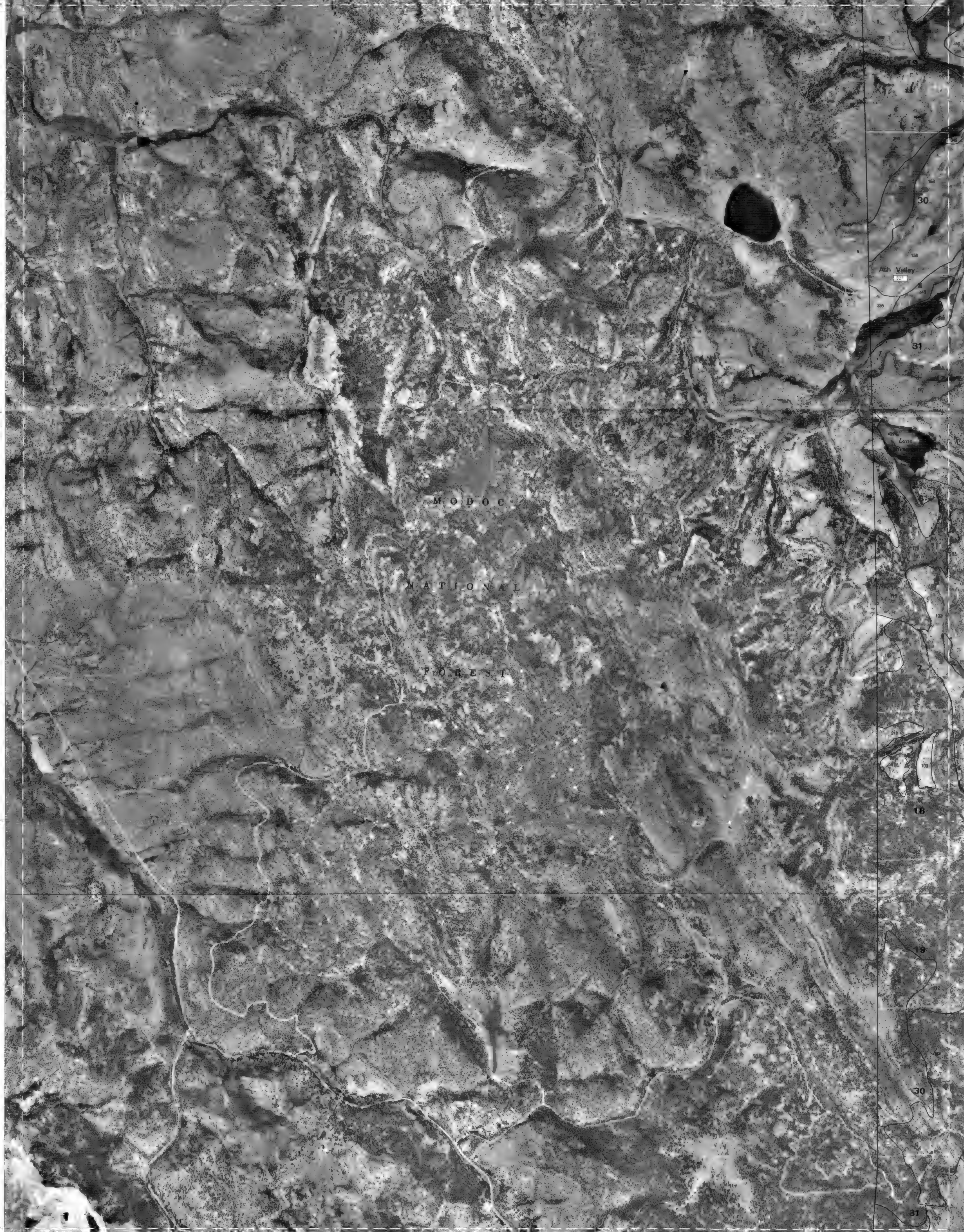
T. 38 N.
41°05'00"
T. 37 N.

41°02'30"

41°02'30"

41°00'00"

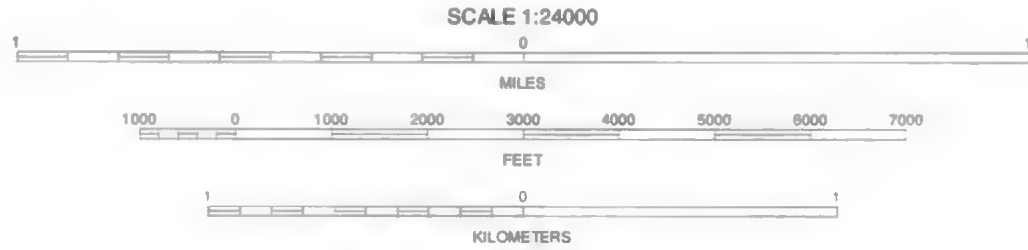
41°00'00"



Joins sheet 7, Ash Valley

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North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

LANE RESERVOIR, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 6 OF 83

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 13
Whisper Mountain

120°45'00" 120°42'30" 120°40'00" R. 11 E. R. 12 E. 120°37'30"

41°07'30"

41°07'30"

T. 38 N.
41°06'00"
T. 37 N.

41°06'00"

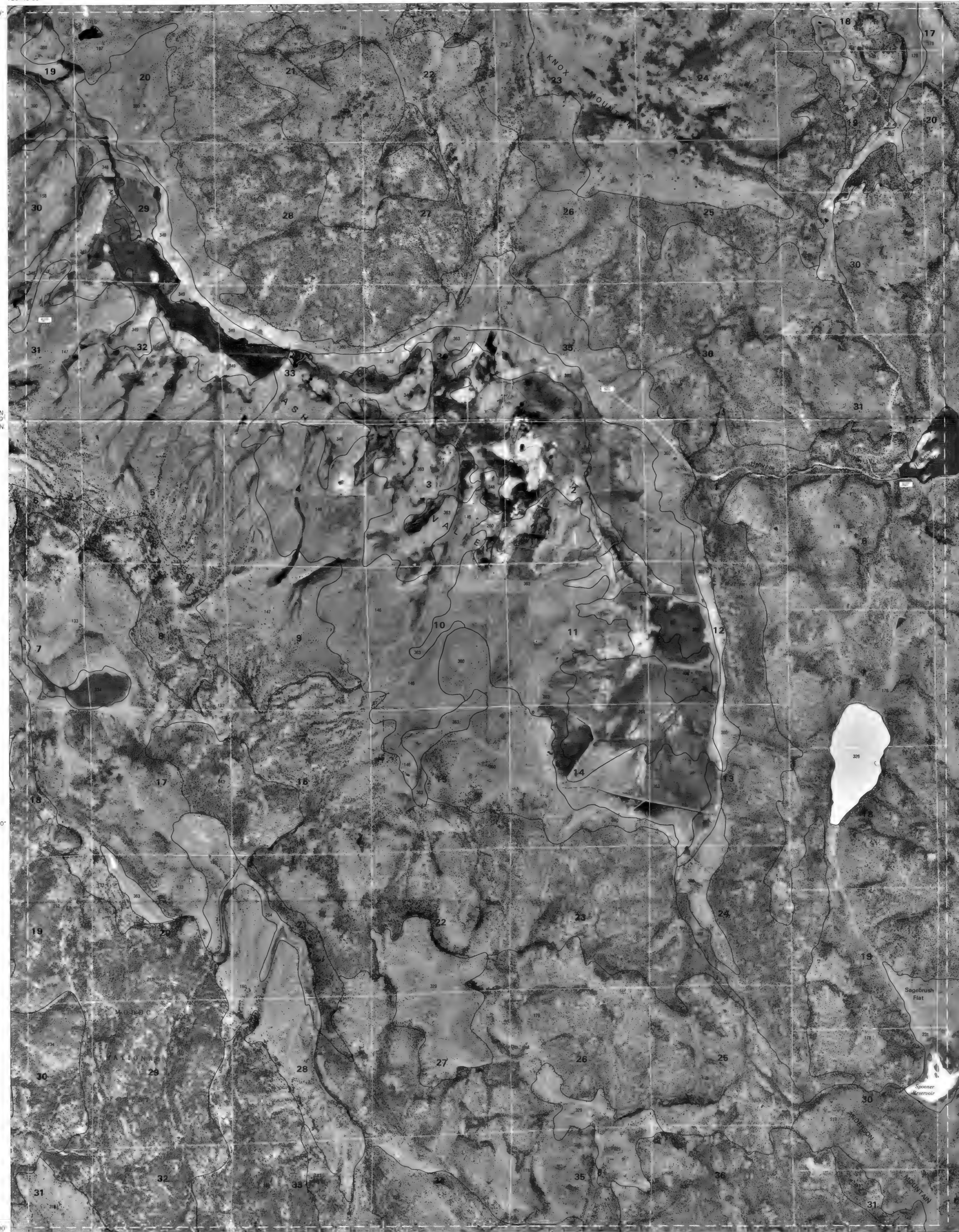
T. 38 N.
T. 37 N.

41°02'30"

41°02'30"

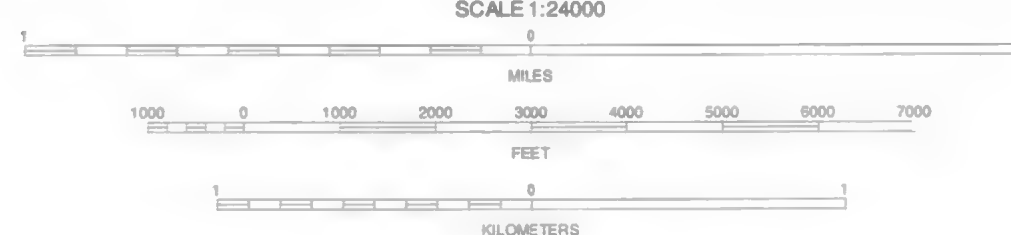
41°00'00"

41°00'00"



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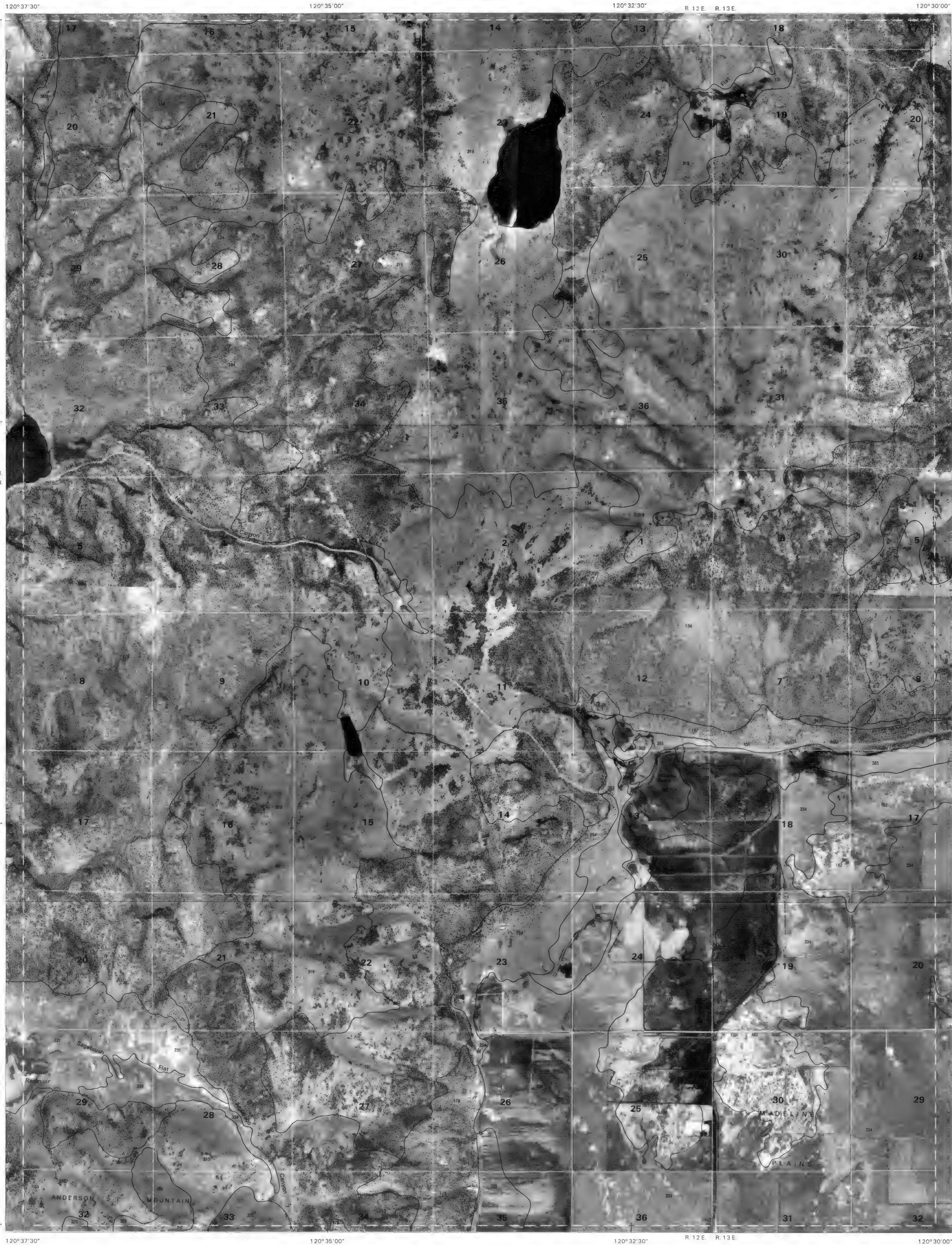
North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

ASH VALLEY, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 7 OF 83

Soil map delineations extending beyond the dashed white quadrangle neoline are for reference only and are included on adjacent map sheets.

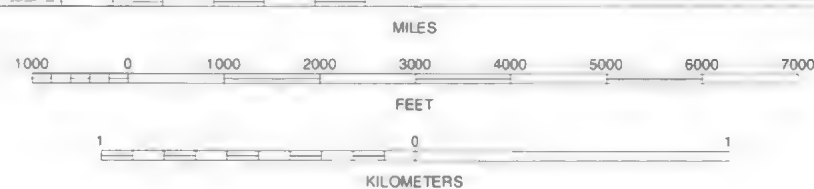


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1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

Joins sheet 14, Anderson Mountain

SCALE 1:24000



QUADRANGLE LOCATION

HOLBROOK CANYON, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 8 OF 83

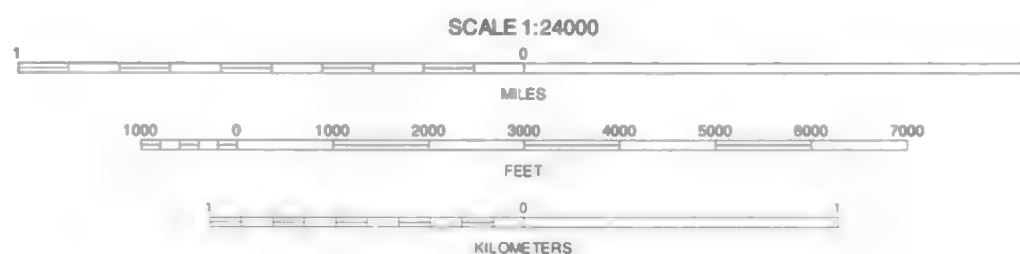
Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

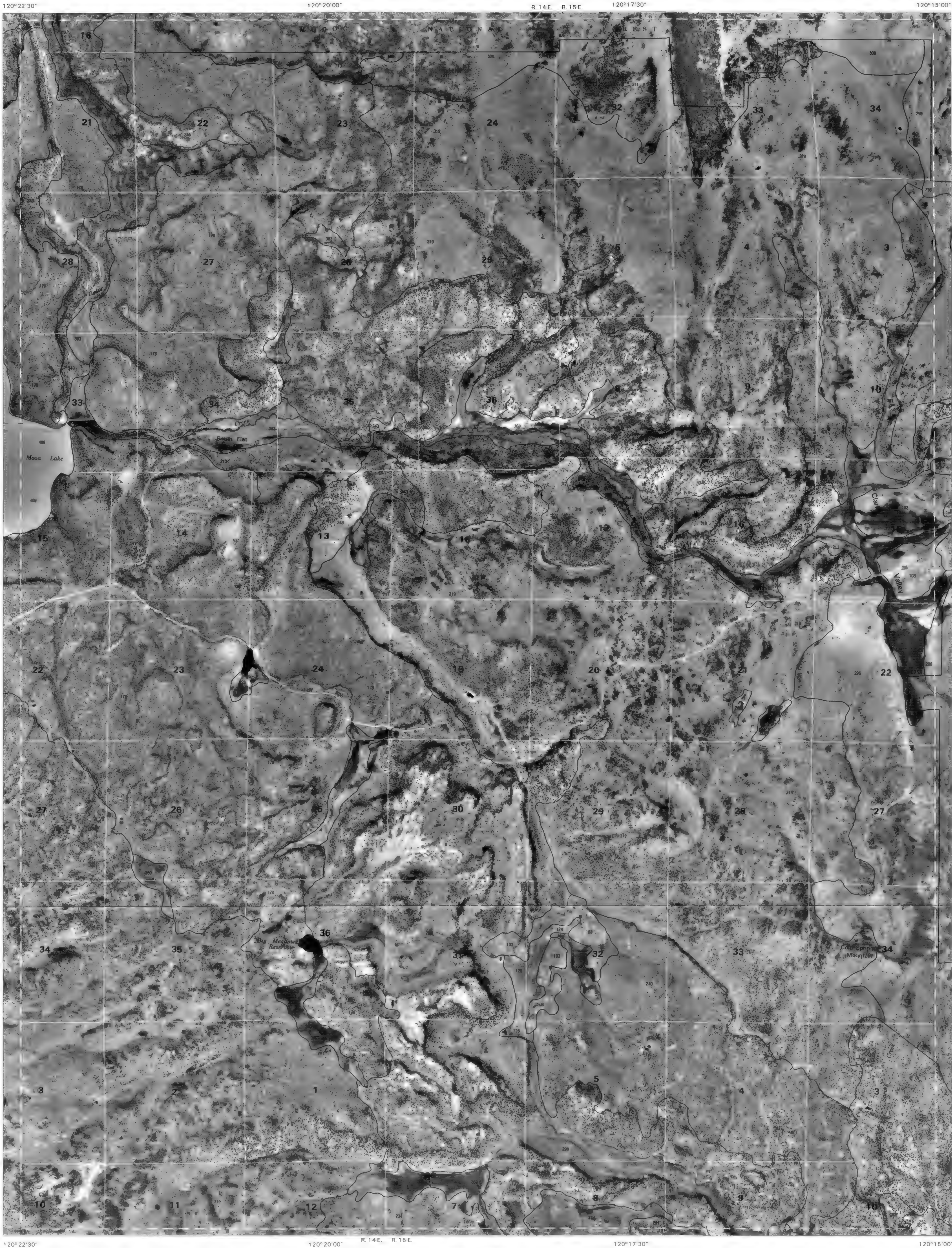
NORTH



QUADRANGLE LOCATION

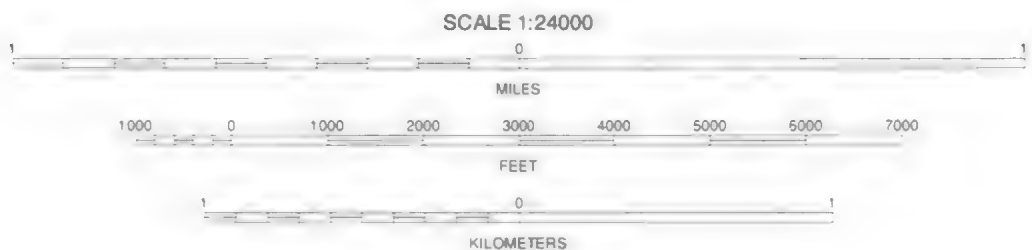
MADELINE, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 9 OF 83

Soil map delineations extending beyond the dashed white quadrangle nealines are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



COLD SPRING MOUNTAIN, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 10 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.

120°12'30"
R. 15 E. R. 16 E.

120°10'00"

41°07'30"

T. 38 N.
T. 37 N.

41°05'00"

41°02'30"

T. 37 N.
T. 36 N.

41°00'00"

120°15'00"

R. 15 E. R. 16 E.
120°12'30"

120°10'00"

120°07'30"

41°07'30"

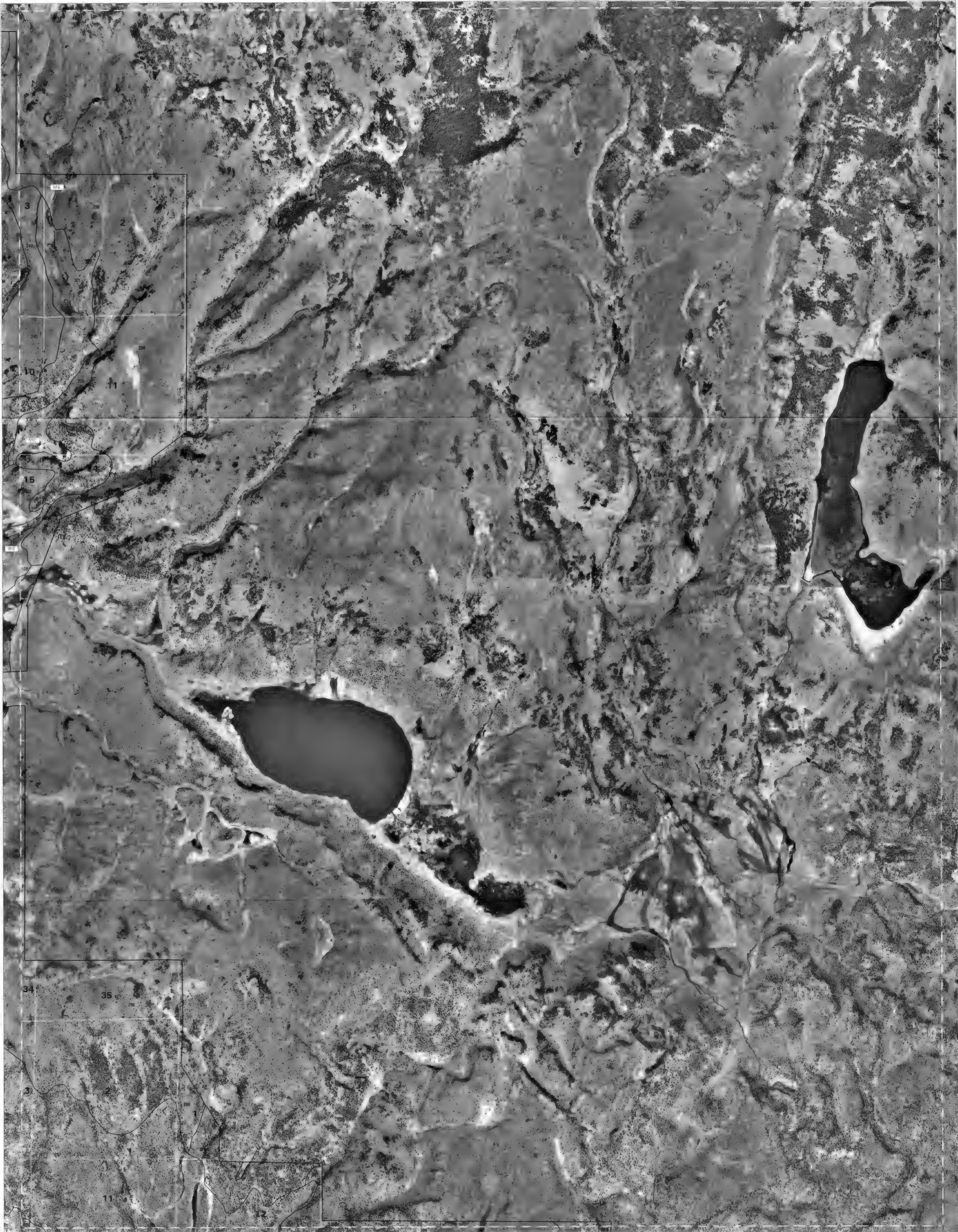
T. 38 N.
T. 37 N.

41°05'00"

41°02'30"

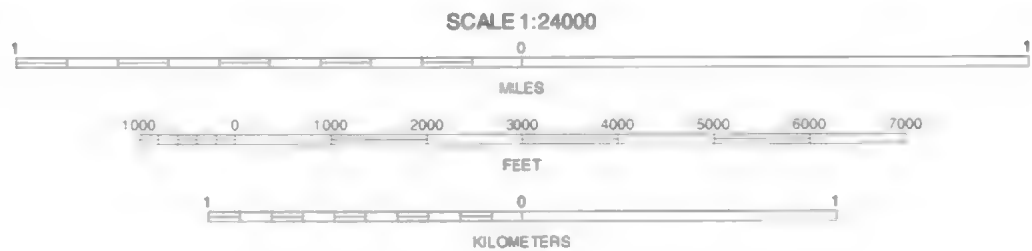
T. 37 N.
T. 36 N.

41°00'00"



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

BOOT LAKE, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 11 OF 83

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

41° 00' 00"

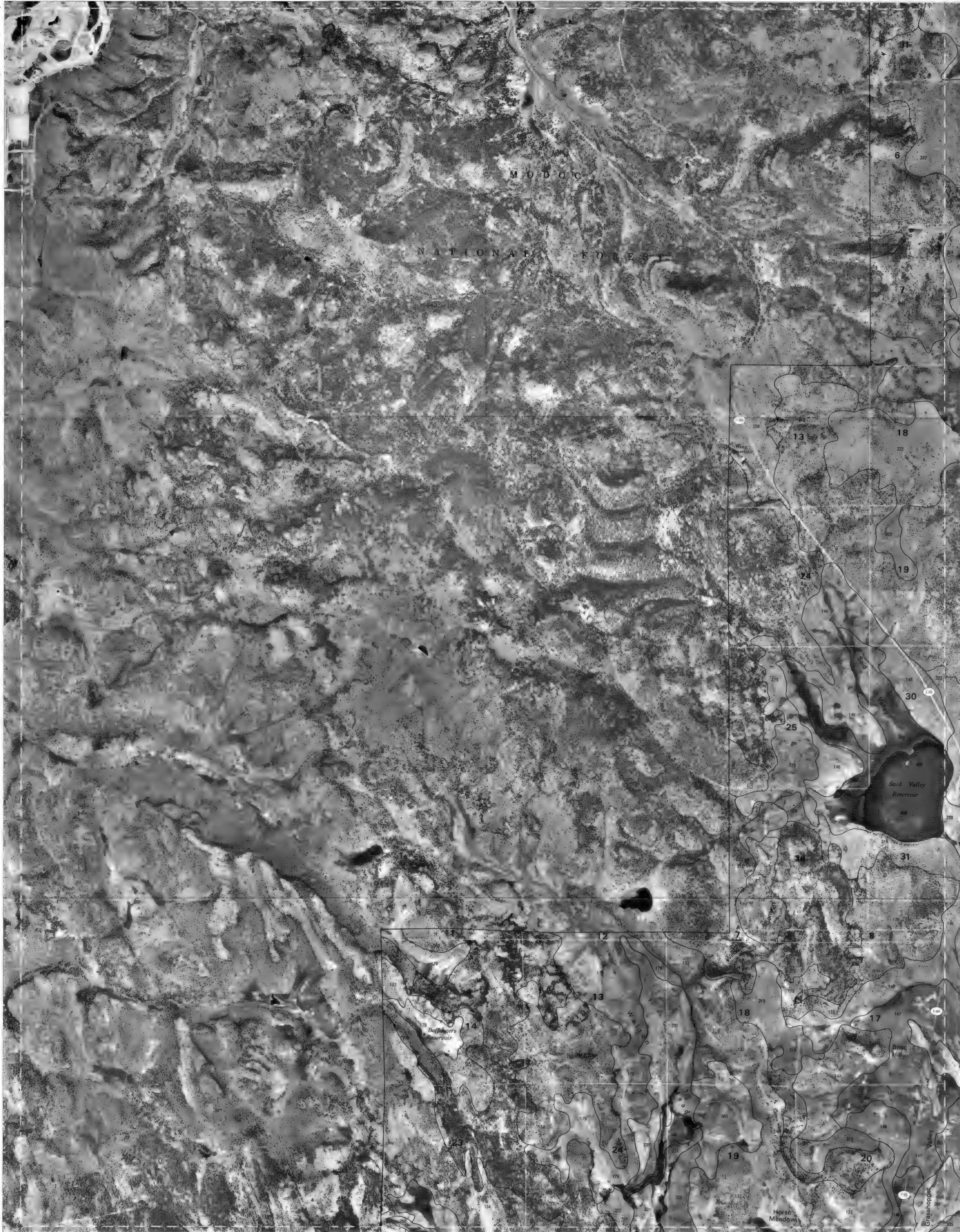
T. 37 N.
T. 36 N.

40° 57' 30"

40° 55' 00"

T. 36 N.
T. 35 N.

40° 52' 30"



41° 00' 00"

T. 37 N.
T. 36 N.

40° 57' 30"

40° 55' 00"

T. 36 N.
T. 35 N.

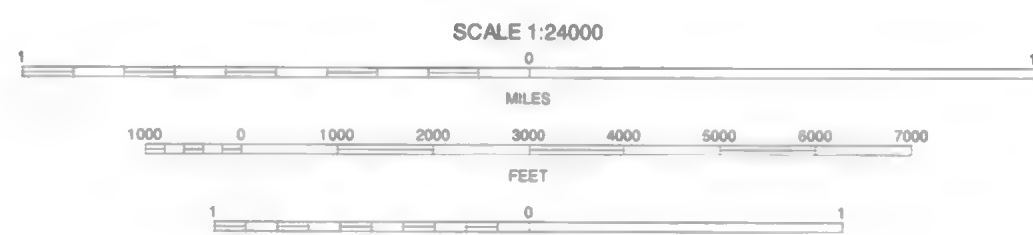
40° 52' 30"

Joins sheet 13, Whittaker Mountain

Join sheet 21,
Grasshopper Valley

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North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

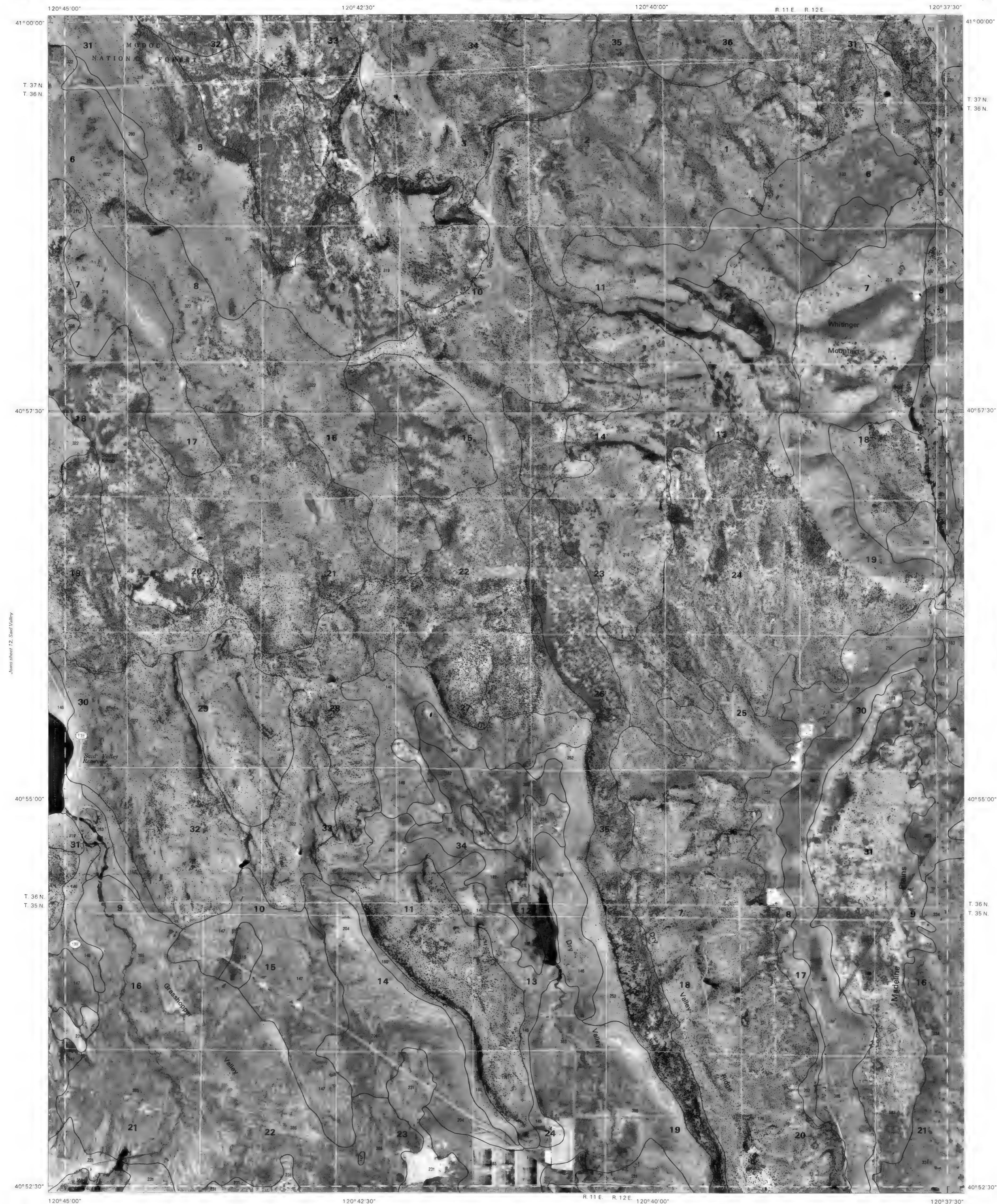
SAID VALLEY, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 12 OF 83

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

Joins sheet 6,
Lake Reservoir

Joins sheet 7, Ash Valley

Joins sheet 8,
Pulaski Canyon

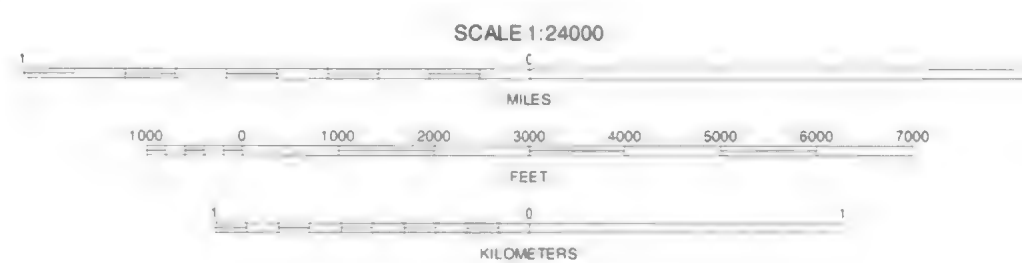


Joins sheet 12, Sand Valley

Joins sheet 14, Anderson Mountain

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North American Datum of 1983 (NAD83) Clark 1866
1000-meter bks: Universal Transverse Mercator, zone 10.
Coordinate grid bks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

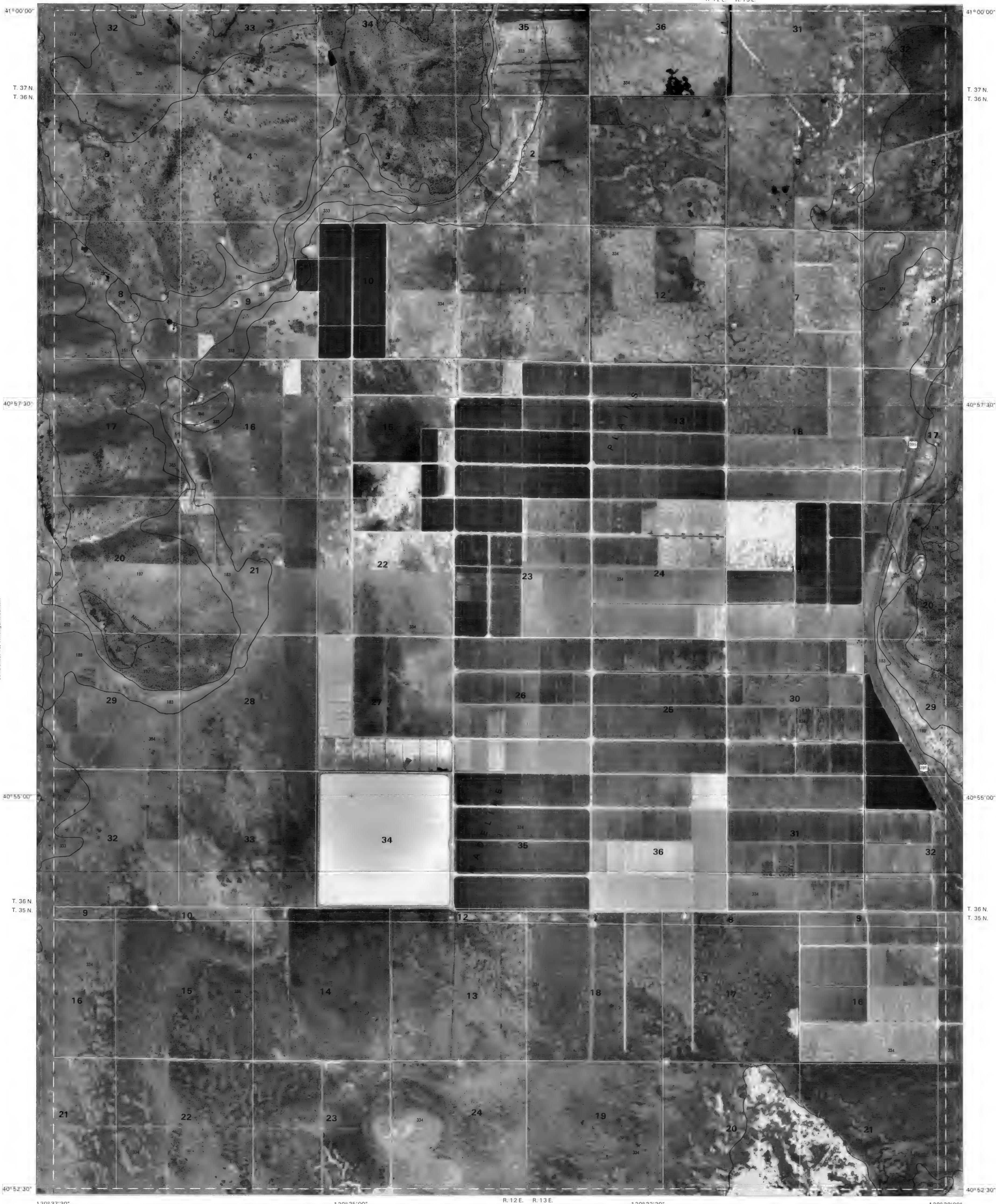
WHITINGER MOUNTAIN, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 13 OF 83

Soil map delineations extending beyond the dashed white quadrangle neoline are for reference only and are included on adjacent map sheets.

Joins sheet 20,
Chaparral

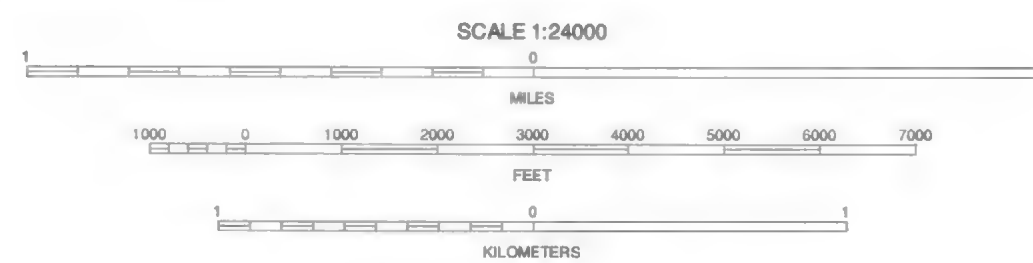
Joins sheet 22,
Chaparral

120°37'30" 120°35'00" 120°32'30" R. 12 E. R. 13 E. 120°30'00"



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

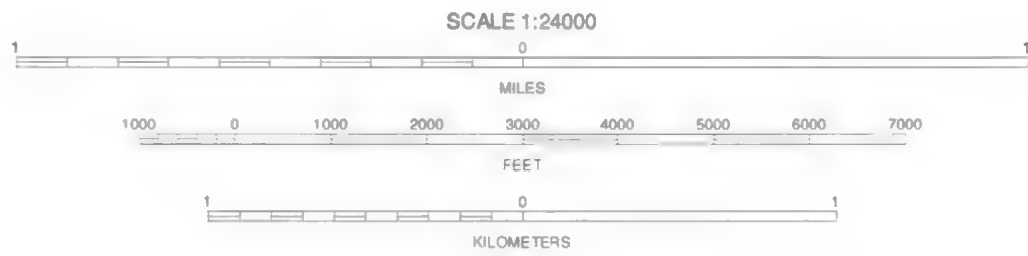
ANDERSON MOUNTAIN, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 14 OF 83

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



MCDONALD PEAK, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 15 OF 83

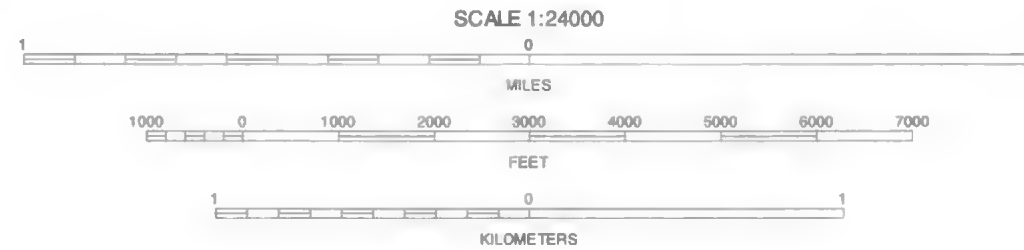
Soil map delineations extending beyond the dashed white quadrangle nealines are for reference only and are included on adjacent map sheets.

120°22'30" 120°20'00" R. 14 E. R. 15 E. 120°17'30" 120°15'00"



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

JUNIPER RIDGE, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 16 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.

120°12'30"
R. 15 E. R. 16 E.

Joins sheet 11, Boot Lake

120°10'00"

120°07'30"

41°00'00"

41°00'00"

40°57'30"

40°57'30"

40°55'00"

40°55'00"

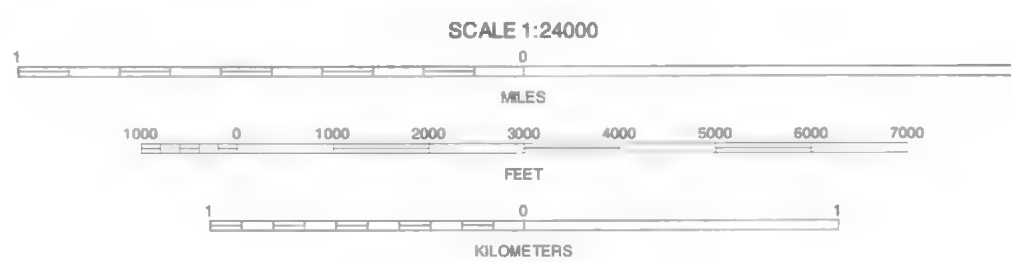
40°52'30"

40°52'30"



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

DODGE RESERVOIR, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 17 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

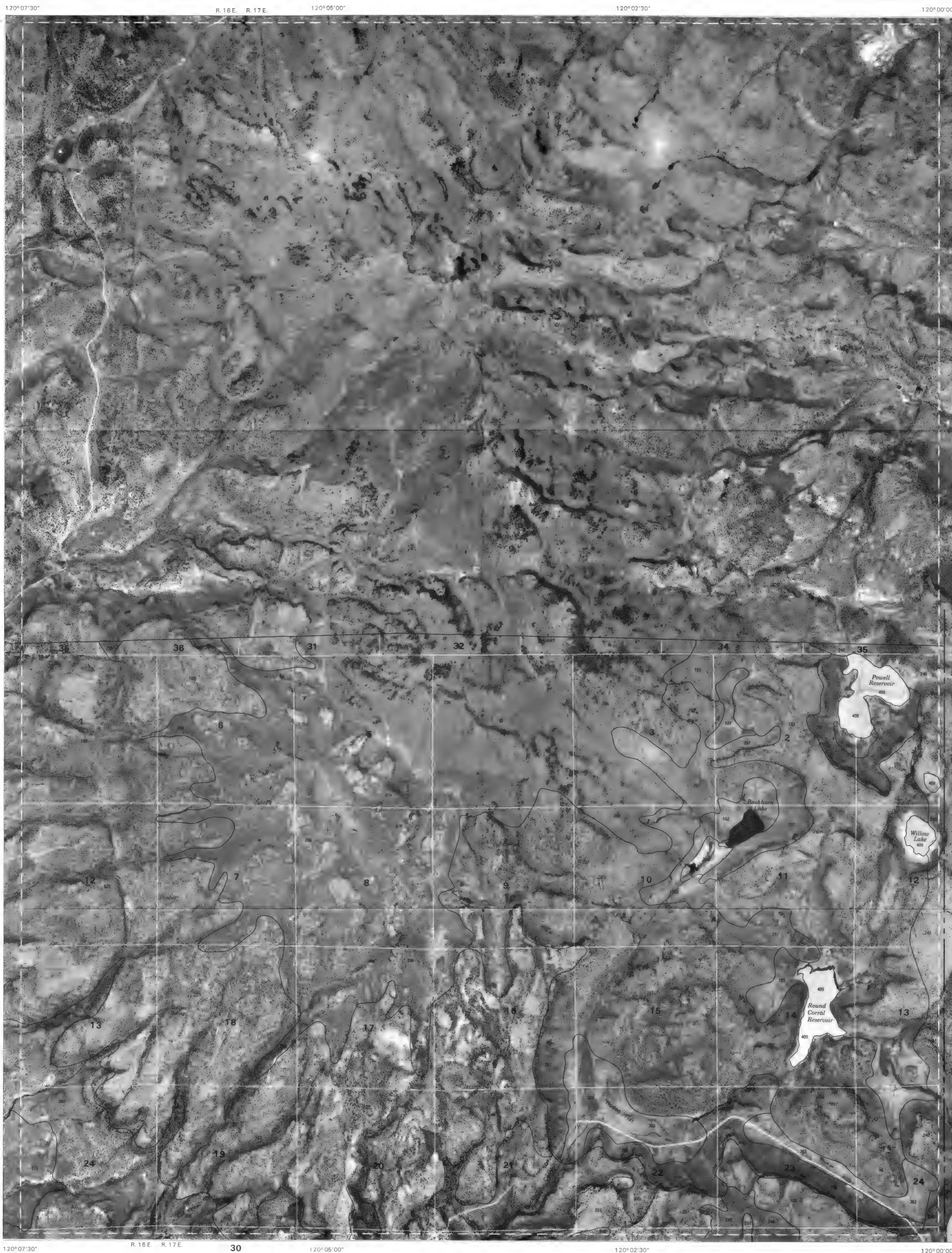
Joins sheet 19,
Cold Spring Mountain

Joins sheet 16, January Ridge
T. 36 N.
T. 35 N.

Joins sheet 24,
Bartlett Canyon

Joins sheet 18, Blackhorn Lake
T. 36 N.
T. 35 N.

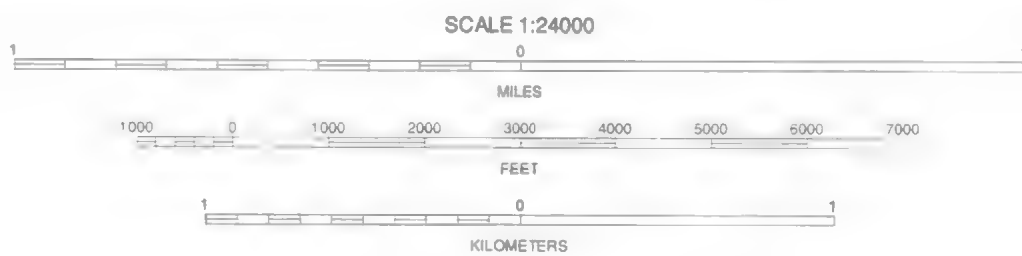
Joins sheet 26,
Bartlett Canyon



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION

BUCKHORN LAKE, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 18 OF 83

Soil map delineations extending beyond the dashed white quadrangle outline are for reference only and are included on adjacent map sheets.

120°00'00"
R. 17 E. R. 18 E.

119°57'30"

119°55'00"

R. 18 E. R. 19 E.

119°52'30"

41°00'00"

41°00'00"

40°57'30"

40°57'30"

T. 36 N.
T. 35 N.

T. 36 N.
T. 35 N.

40°55'00"

40°55'00"

40°52'30"

40°52'30"

R. 17 E. R. 18 E.
120°00'00"

119°57'30"

119°55'00"

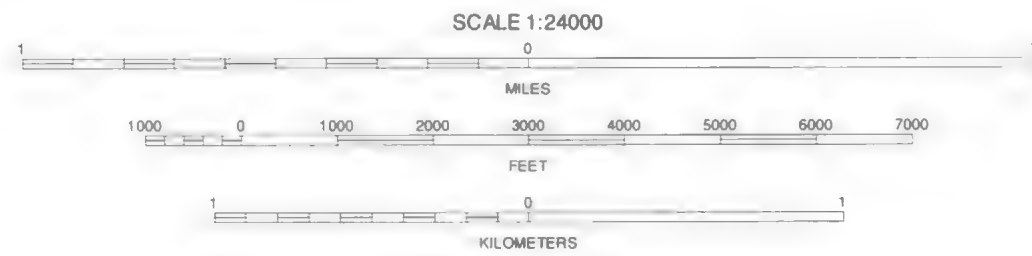
R. 18 E. R. 19 E.

119°52'30"

Joins sheet 27, Hole In The Ground

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soil information.

North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 11.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

BURNT LAKE, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 19 OF 83

Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets.

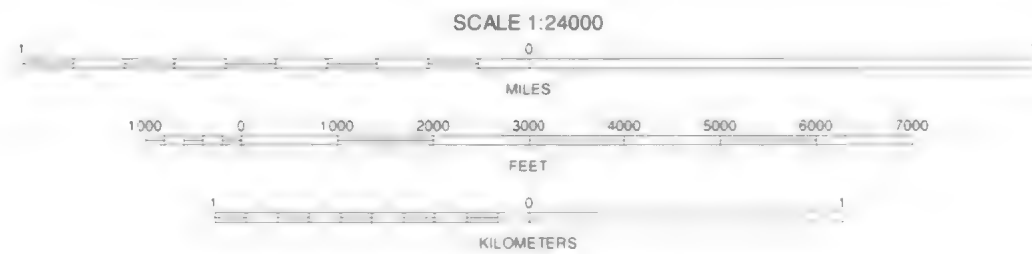
Joins sheet 13,
Winning Mountain



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication or topography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

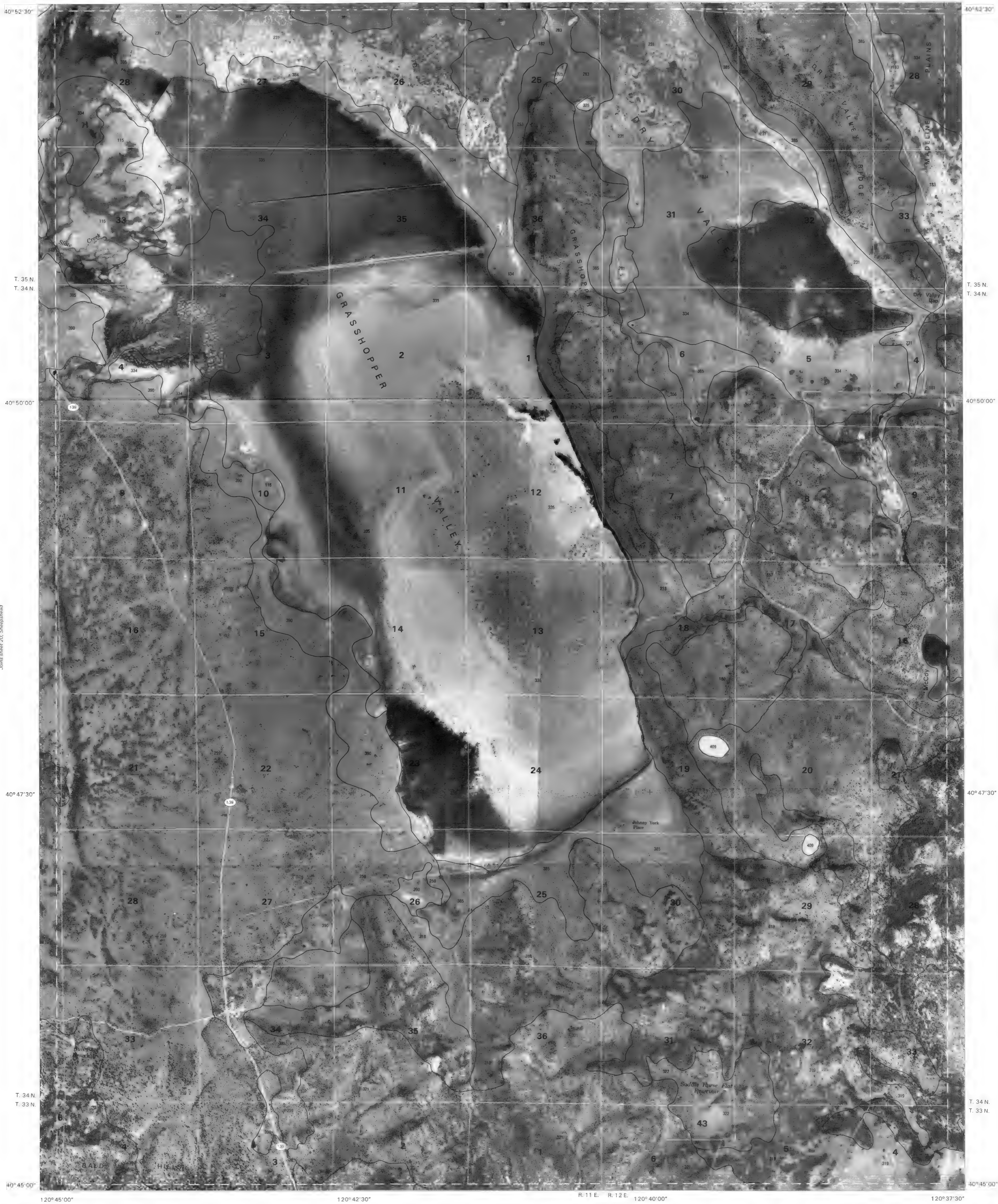


QUADRANGLE LOCATION

SHEEPSHEAD, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 20 OF 83

Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets.

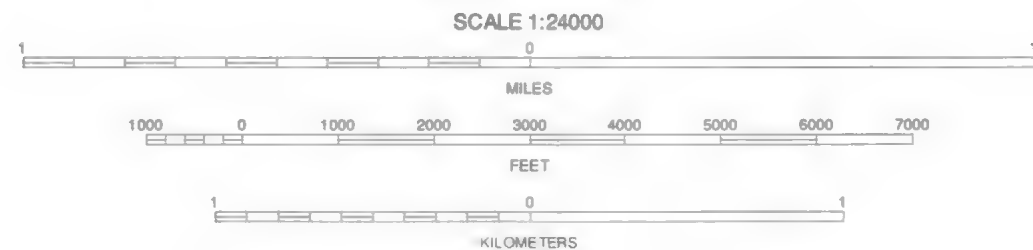
Joins sheet 29,
Traver Peak



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1886 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

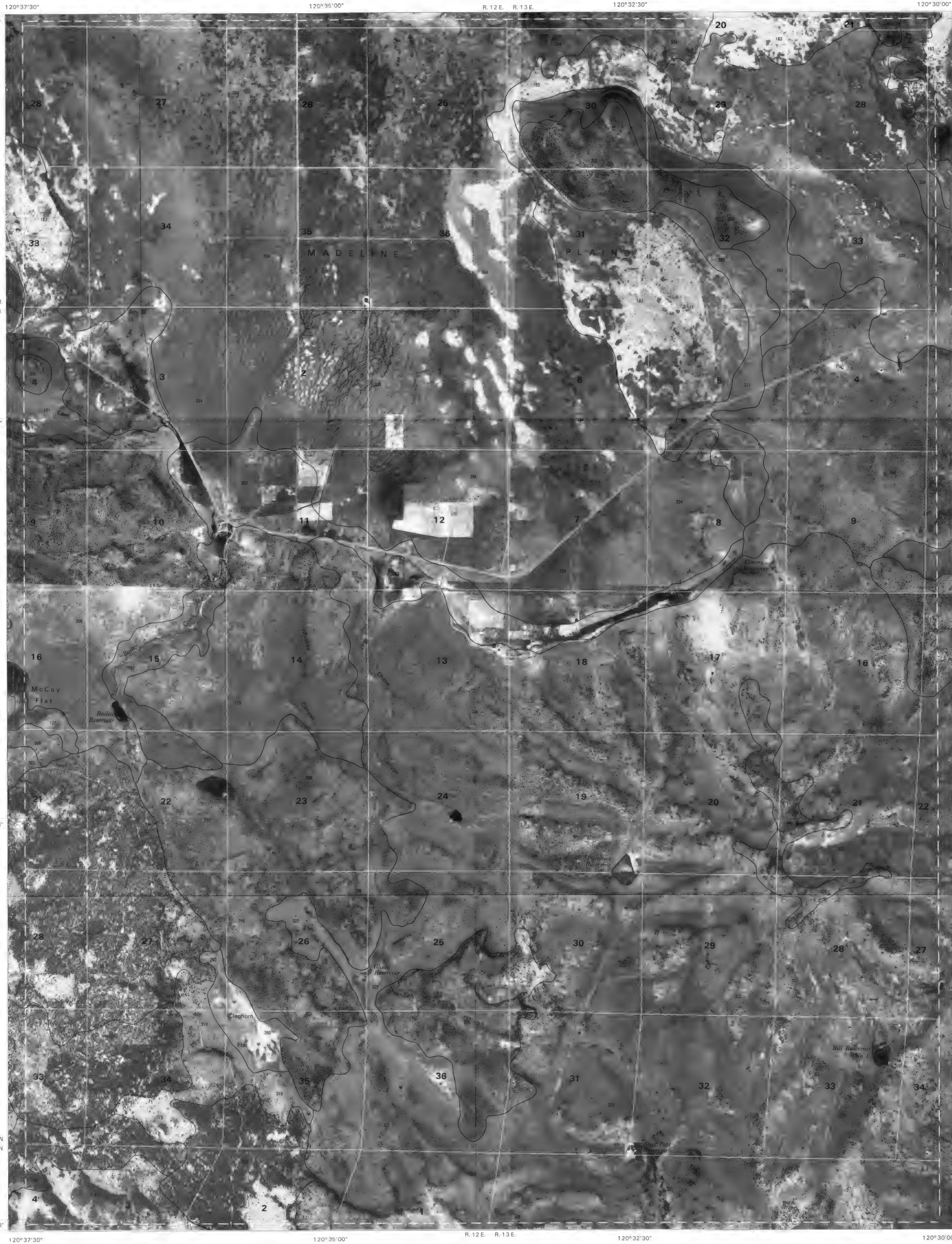
NORTH



QUADRANGLE LOCATION

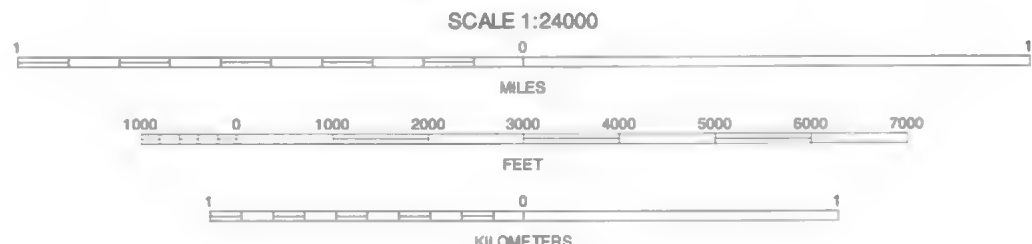
GRASSHOPPER VALLEY, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 21 OF 83

Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



CLEGHORN FLAT, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 22 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

120° 30' 00"

120° 27' 30"

R. 13 E. R. 14 E.

120° 25' 00"

120° 22' 30"

40° 52' 30"

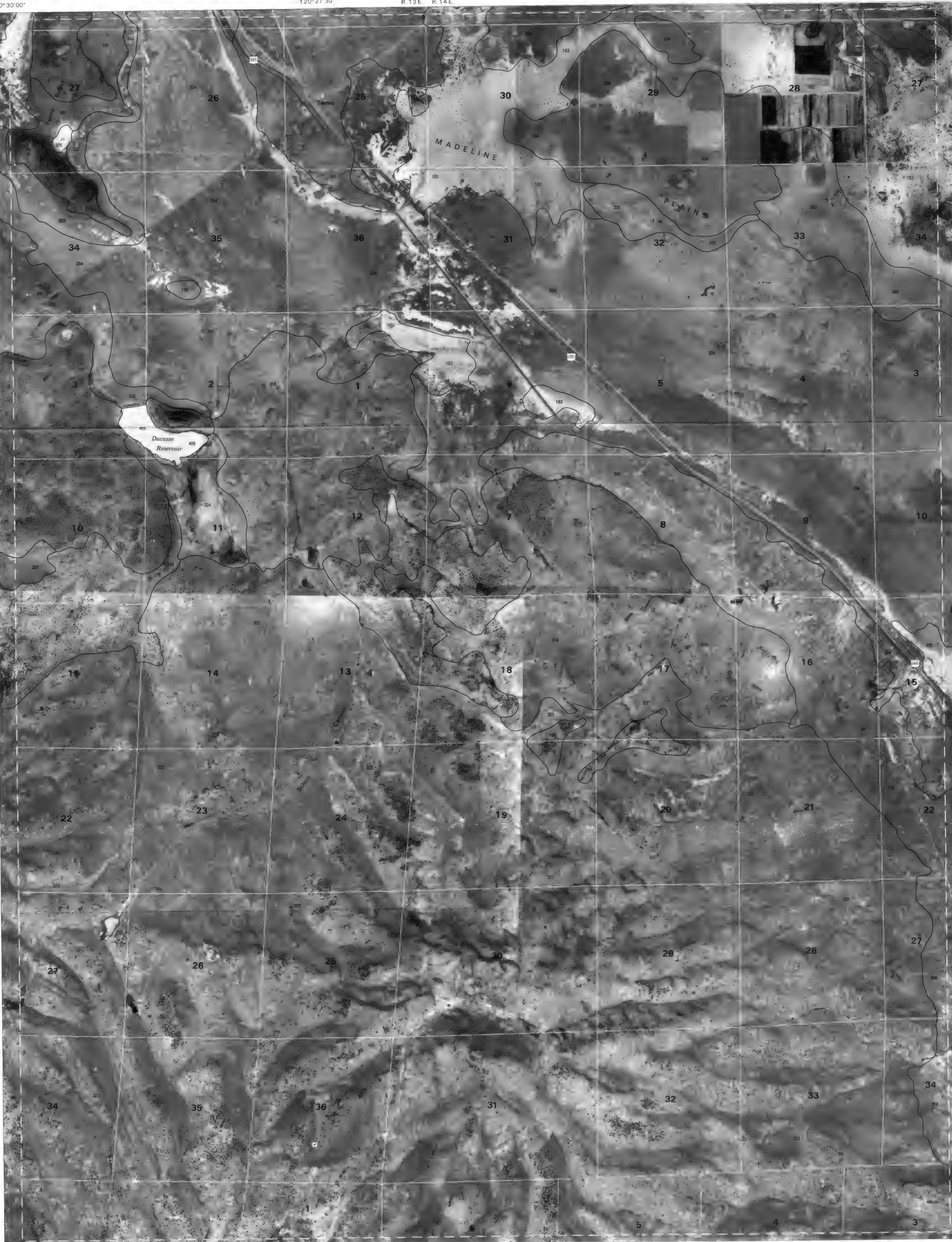
T. 35 N.
T. 34 N.

40° 50' 00"

40° 47' 30"

T. 34 N.
T. 33 N.

40° 45' 00"

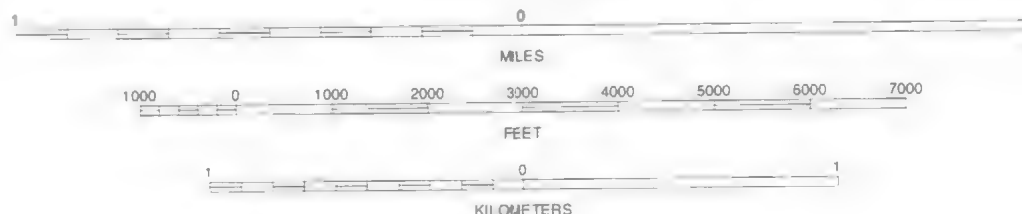


This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

Joins sheet 31, West of Snowstorm Mountain

SCALE 1:24000



QUADRANGLE LOCATION

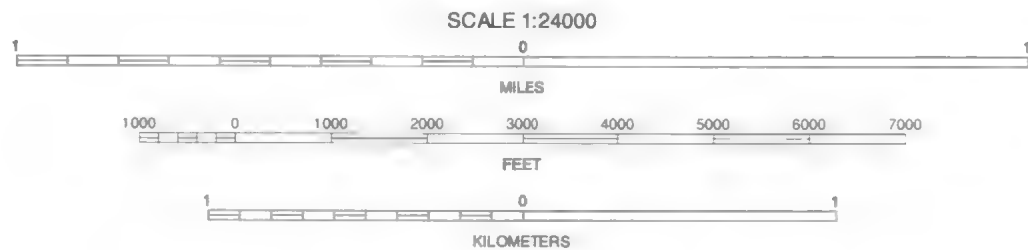
TERMO, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 23 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

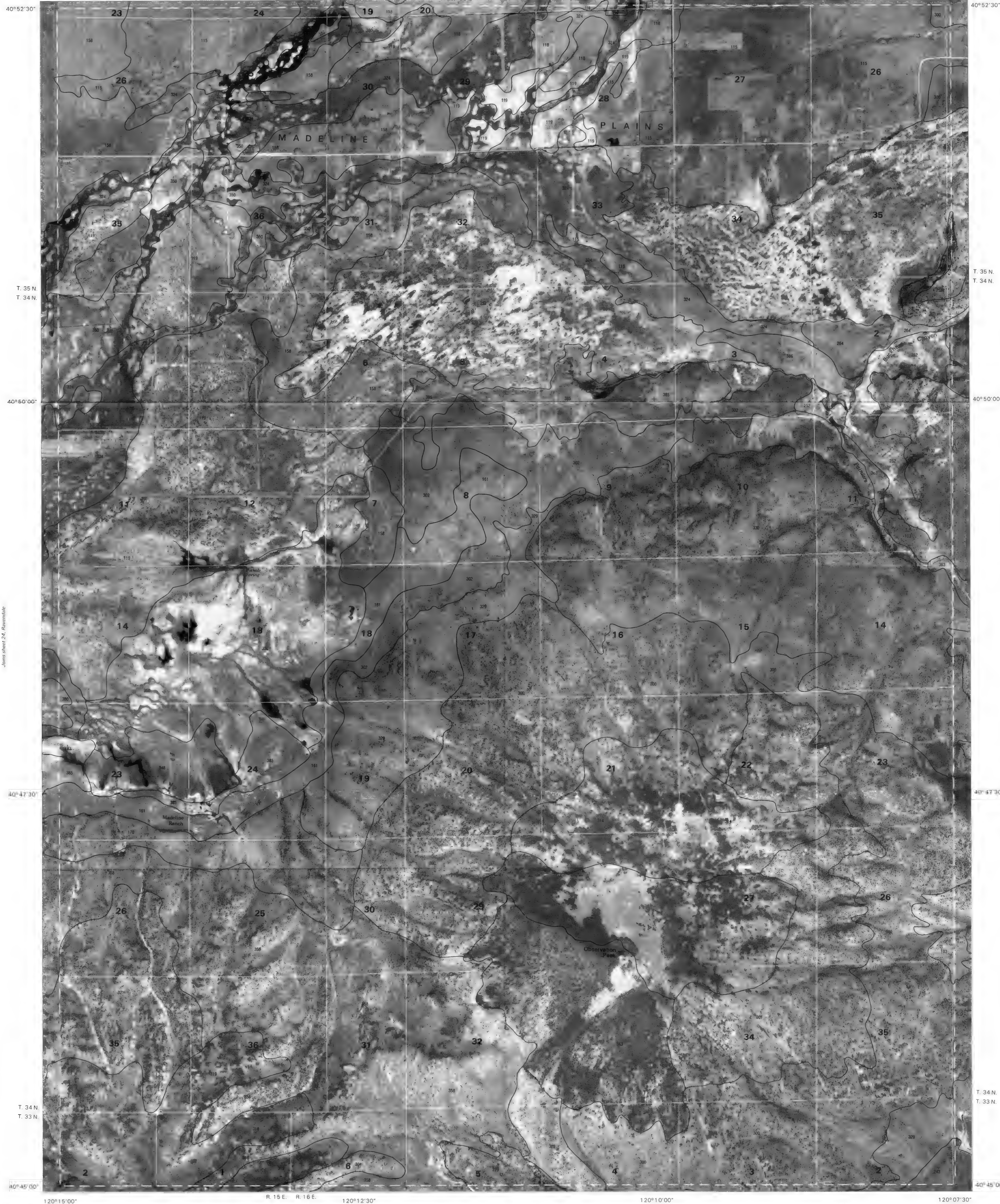


RAVENDALE, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 24 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

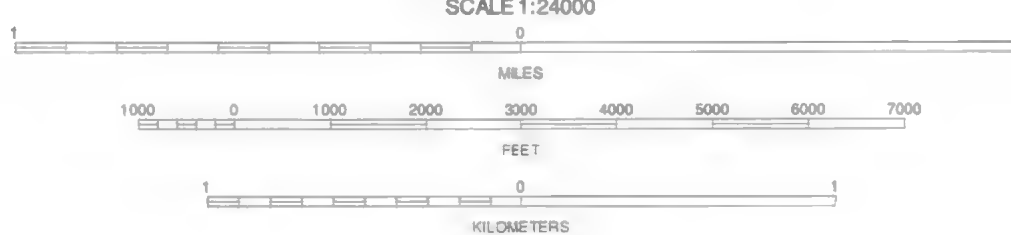
Joins sheet 17, Dodge Reservoir

Joins sheet 18,
Buchanan Lake



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

OBSERVATION PEAK, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 25 OF 83

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

120°07'30" 120°05'00" 120°02'30" 120°00'00"

40°52'30"

40°52'30"

T. 35 N.
T. 34 N.

T. 35 N.
T. 34 N.

40°50'00"

40°50'00"

40°47'30"

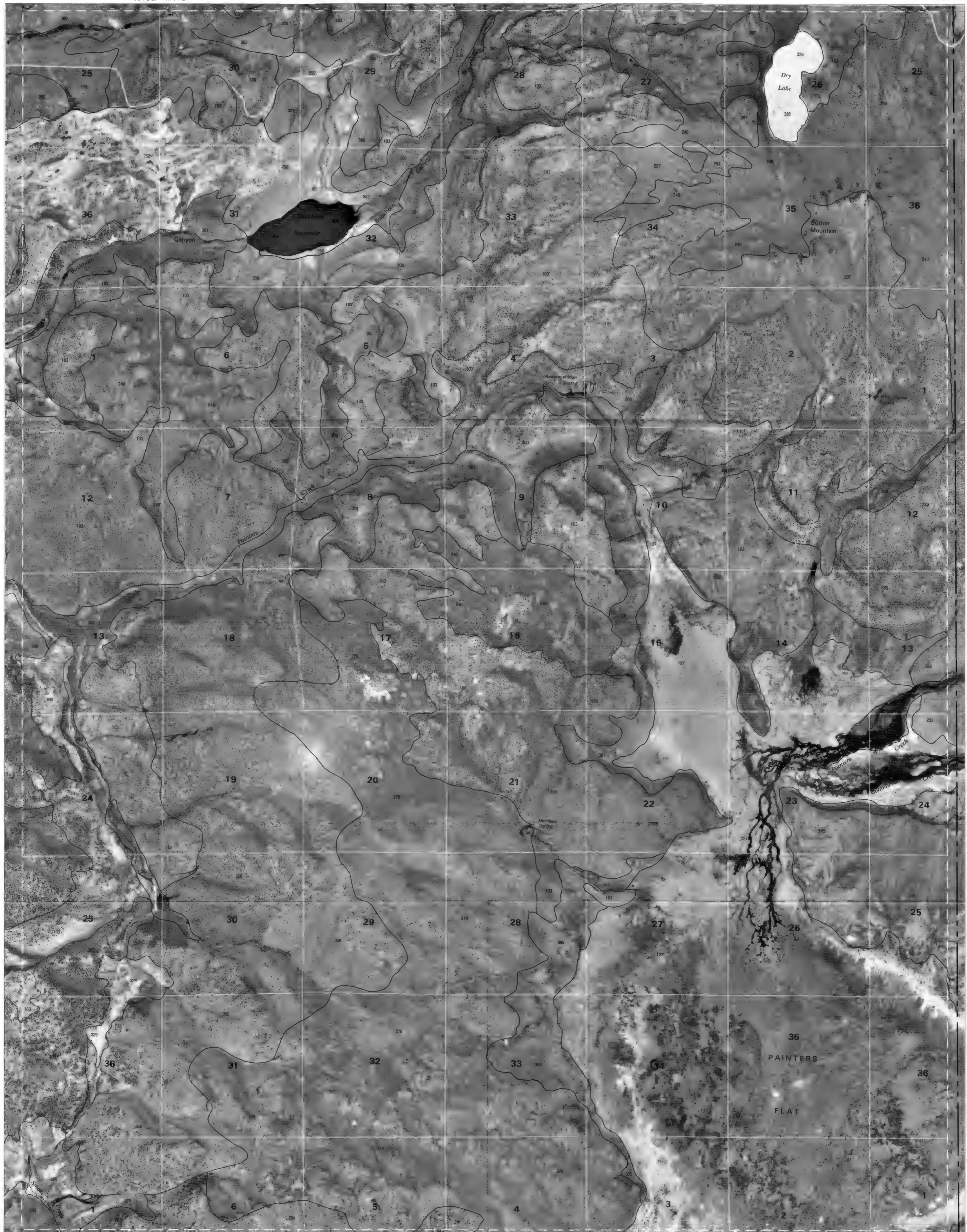
40°47'30"

T. 34 N.
T. 33 N.

T. 34 N.
T. 33 N.

40°45'00"

40°45'00"



120°07'30" 120°05'00" 120°02'30" 120°00'00"

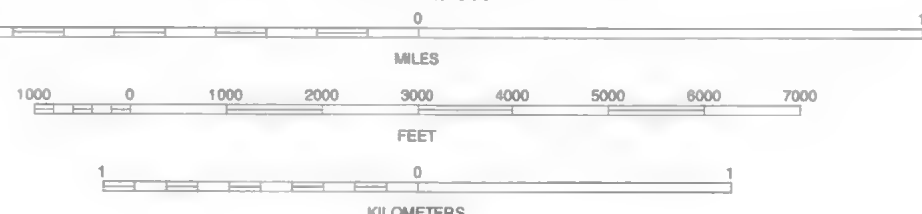
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

Joins sheet 34, Al Shinn Canyon

SCALE 1:24000



QUADRANGLE LOCATION

BUCKHORN CANYON, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 26 OF 83

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

120°00'00"
R. 17 E. R. 18 E.

119°57'30"

Joins sheet 19, Burnt Lake

119°55'00"

R. 18 E. R. 19 E.

119°52'30"

40°52'30"

40°52'30"

T. 35 N.
T. 34 N.

T. 35 N.
T. 34 N.

40°50'00"

40°50'00"

40°47'30"

40°47'30"

T. 34 N.
T. 33 N.

T. 34 N.
T. 33 N.

40°45'00"

40°45'00"

R. 17 E. R. 18 E.
120°00'00"

119°57'30"

Joins sheet 35, Mixie Flat

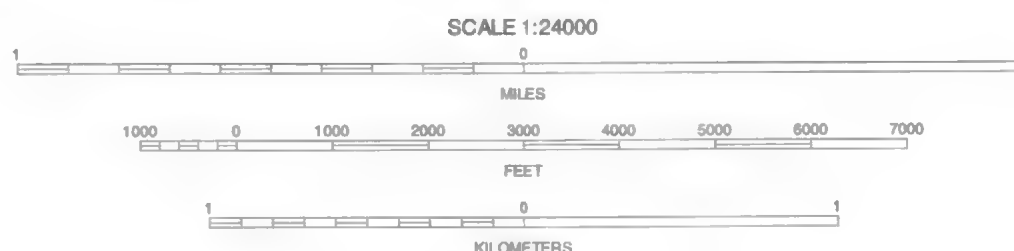
119°55'00"

R. 18 E. R. 19 E.

119°52'30"

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

HOLE IN THE GROUND, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 27 OF 83

Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets.



T. 33 N.
T. 32 N.

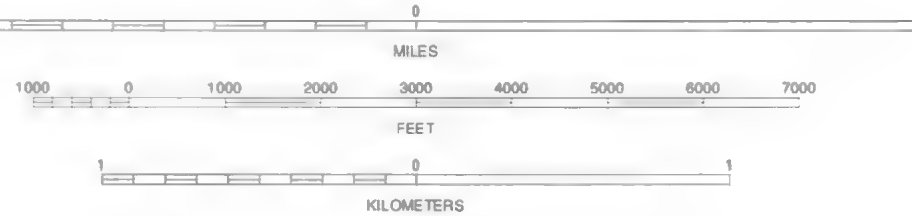
T. 33 N.
T. 32 N.

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

Joins sheet 37, Pikes Point

SCALE 1:24000



QUADRANGLE LOCATION

SPALDING TRACT, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 28 OF 83

Soil map delineations extending beyond the dashed white quadrangle neoline are for reference only and are included on adjacent map sheets.

Joins sheet 29, Travel Point

Joins sheet 28,
Cotton Rock

120° 45' 00"

120° 42' 30"

R. 11 E. R. 12 E. 120° 40' 00"

120° 37' 30"

40° 45' 00"

40° 42' 30"

40° 40' 00"

40° 37' 30"

40° 45' 00"

40° 42' 30"

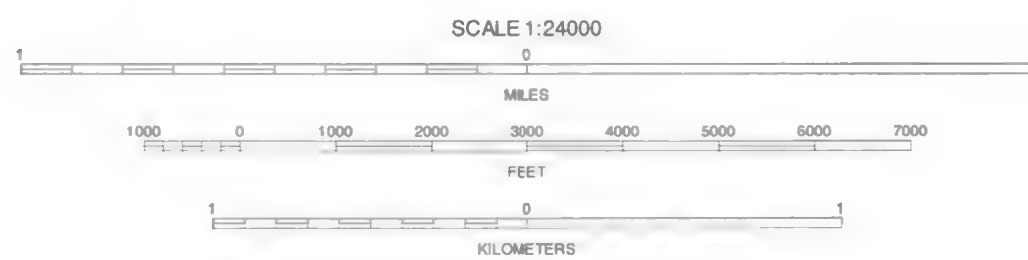
40° 40' 00"

40° 37' 30"



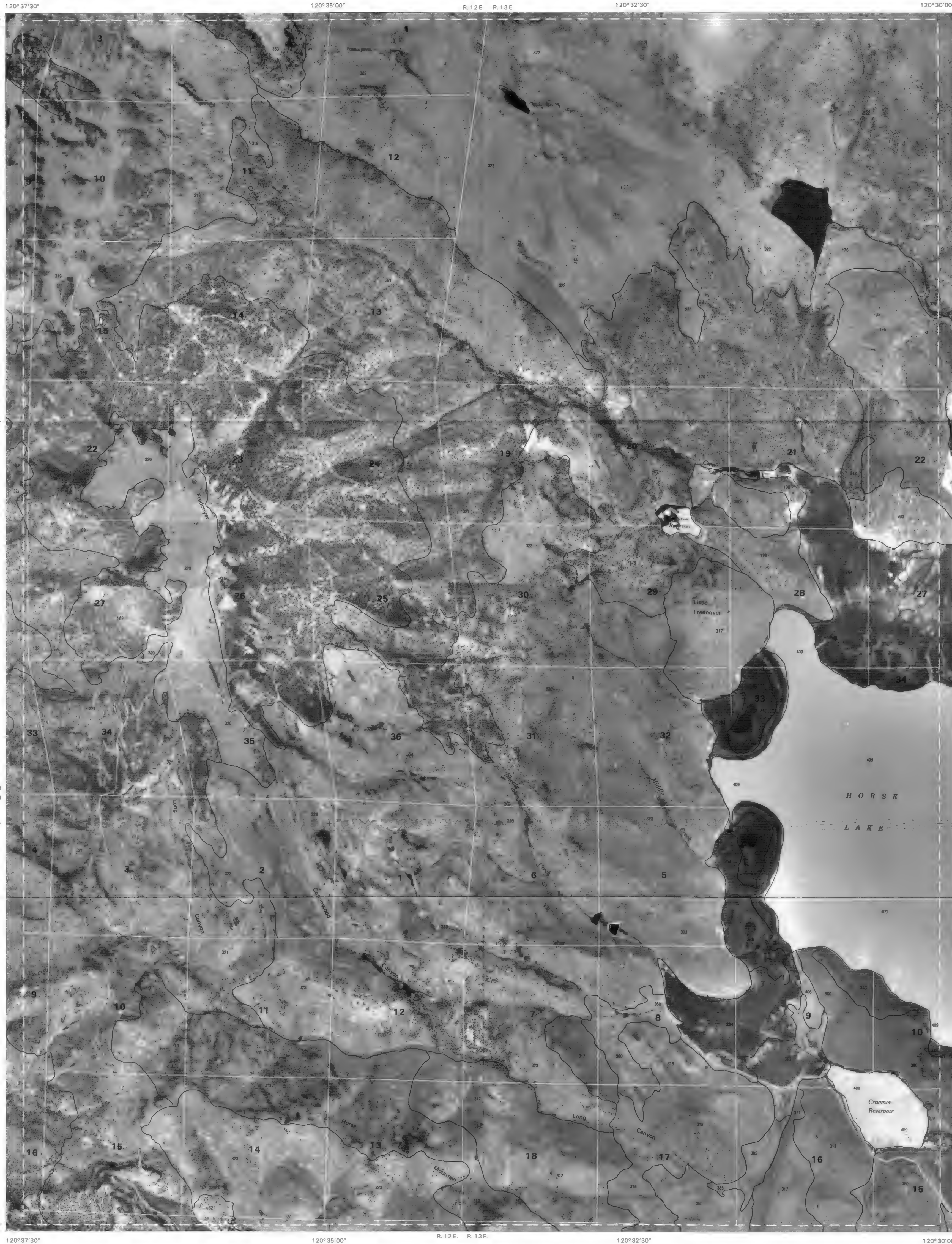
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks. Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



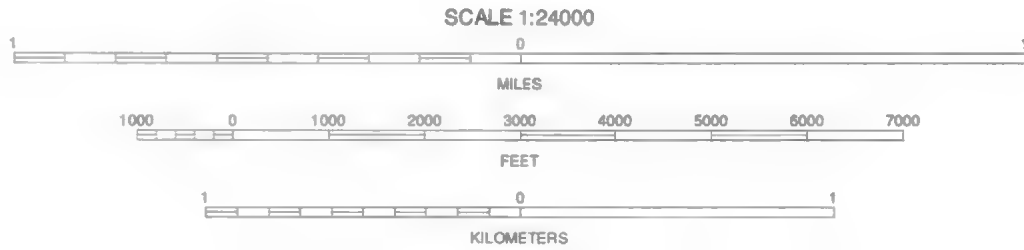
TROXEL POINT, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 29 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1995-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

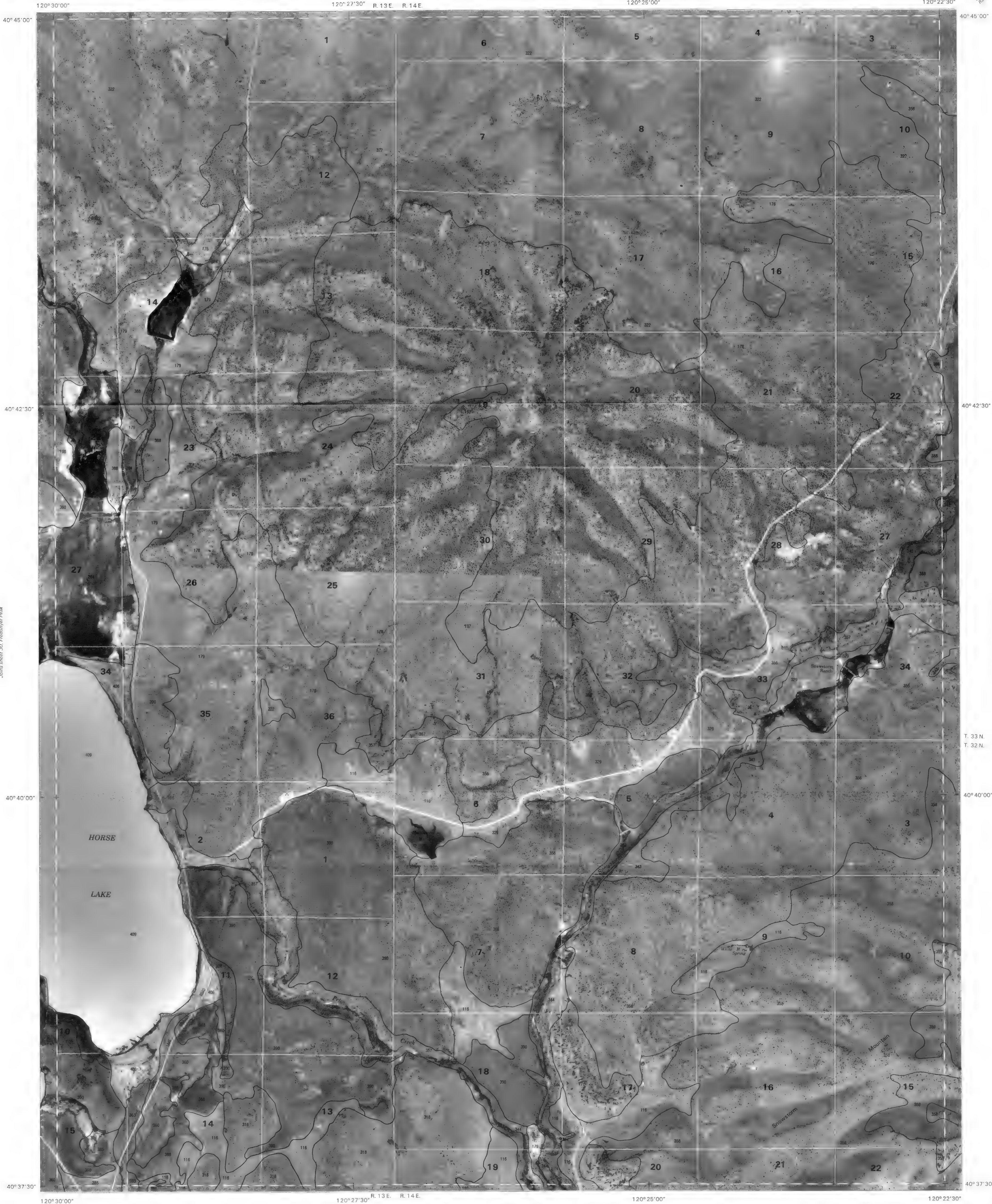
North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

FREDONYER PEAK, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 30 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.

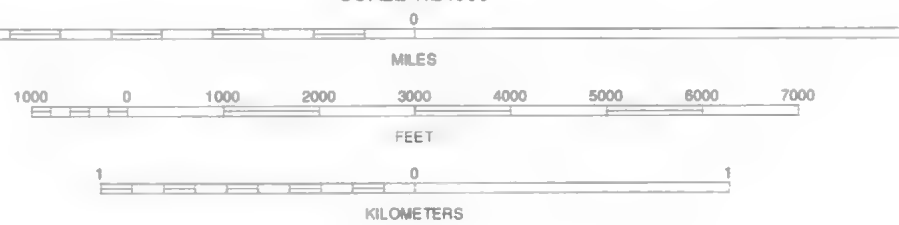


This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks. Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

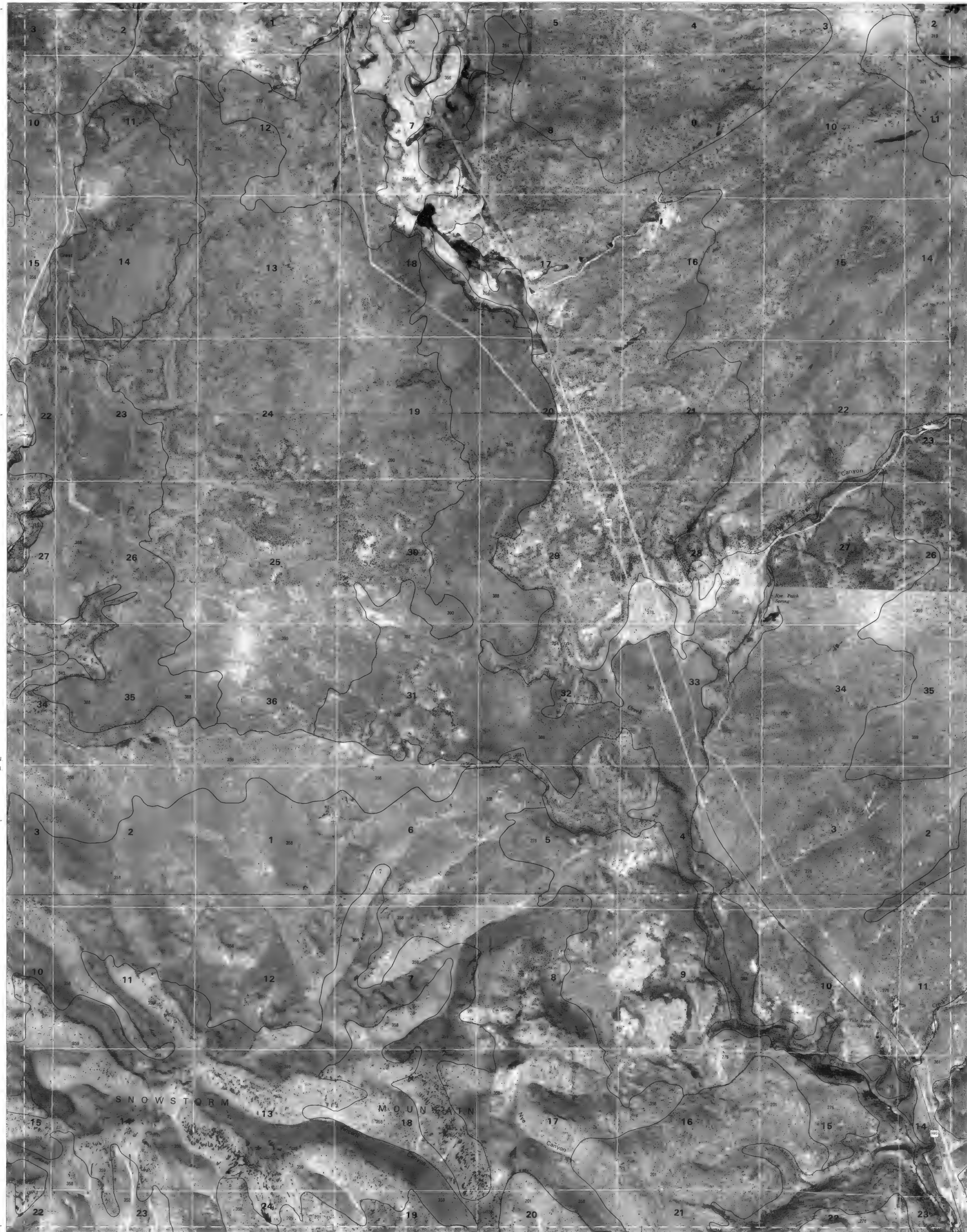
SCALE 1:24000



QUADRANGLE LOCATION

WEST OF SNOWSTORM MOUNTAIN, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 31 OF 83

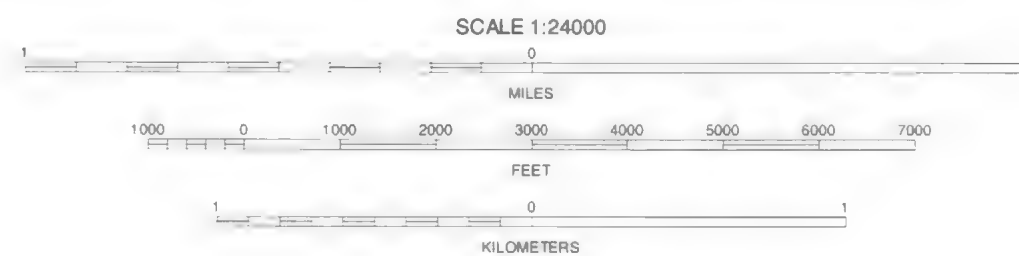
Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1966 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION

SNOWSTORM MOUNTAIN, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 32 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

120°15'00" R. 15 E. R. 16 E. 120°12'30" 120°10'00" 120°07'30"

40°45'00"

40°45'00"

40°42'30"

40°42'30"

40°40'00"

40°40'00"

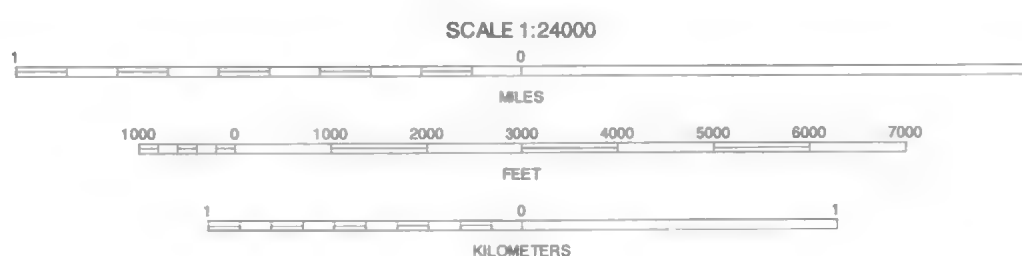
40°37'30"

40°37'30"



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

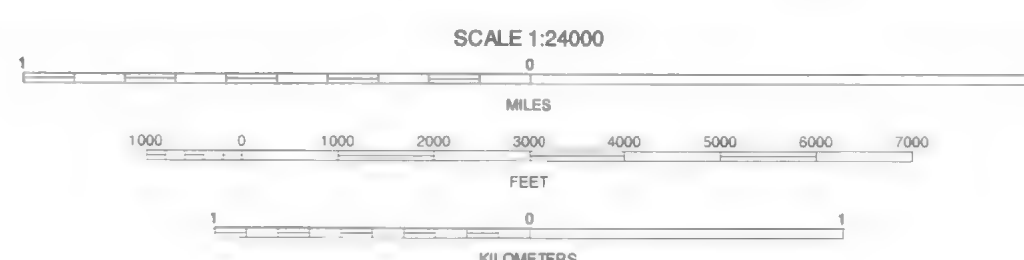
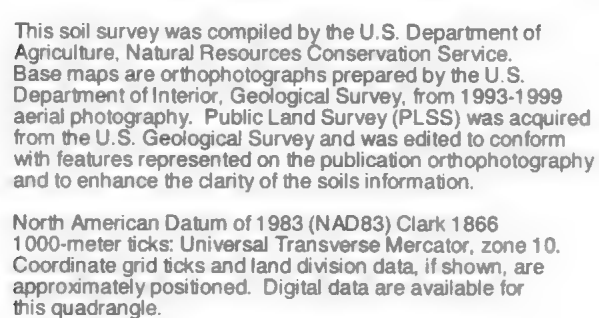
North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

SHINN MOUNTAIN, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 33 OF 83

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.



AL SHINN CANYON, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 34 OF 83

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

120°00'00"
R 17 E R 18 E

119°57'30"

Joins sheet 27, Hole In The Ground

119°55'00"

R 18 E R 19 E

119°52'30"

40°45'00"

40°45'00"

40°42'30"

40°42'30"

T 33 N

40°40'00"

T 33 N

T 32 N

40°40'00"

40°37'30"

40°37'30"

120°00'00" R 17 E R 18 E

119°57'30"

Joins sheet 44, Smoke Creek Ranch

119°55'00"

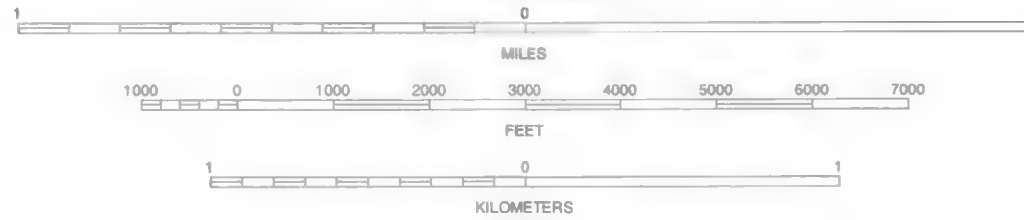
119°52'30"

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

SCALE 1:24000



QUADRANGLE LOCATION

MIXIE FLAT, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 35 OF 83

Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

120° 45' 00"

120° 42' 30"

R. 11 E. R. 12 E. 120° 40' 00"

120° 37' 30"

40° 37' 30"

T. 32 N.
40° 35' 00"
T. 31 N.

40° 37' 30"

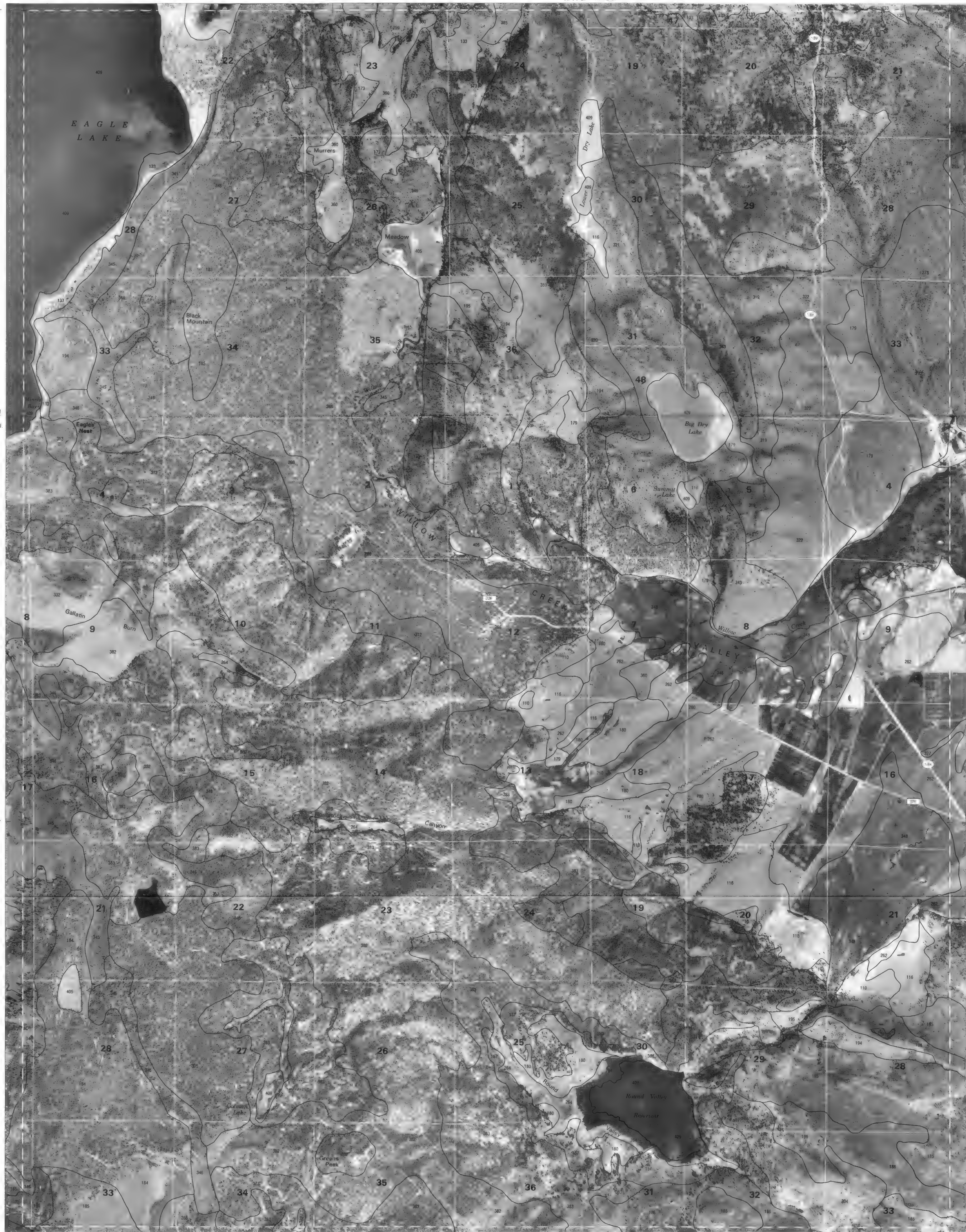
T. 32 N.
40° 35' 00"
T. 31 N.

40° 32' 30"

40° 32' 30"

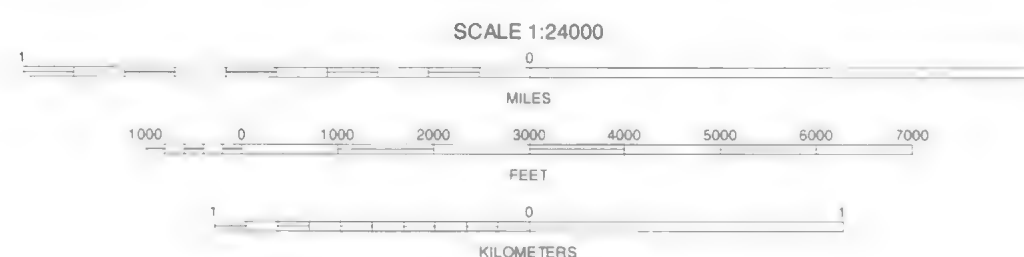
40° 30' 00"

40° 30' 00"



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1985-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

GALLATIN PEAK, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 38 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

120° 37' 30"

120° 35' 00"

Joins sheet 30, Fredonyer Peak
R. 12 E. R. 13 E.

120° 32' 30"

120° 30' 00"

40° 37' 30"

T. 32 N.
40° 35' 00"
T. 31 N.

40° 32' 30"

40° 30' 00"

Joins sheet 38, Callahan Peak

Joins sheet 49,
Susanville



40° 37' 30"

40° 35' 00"
T. 32 N.
T. 31 N.

40° 32' 30"

40° 30' 00"

Joins sheet 40, Petrus Valley

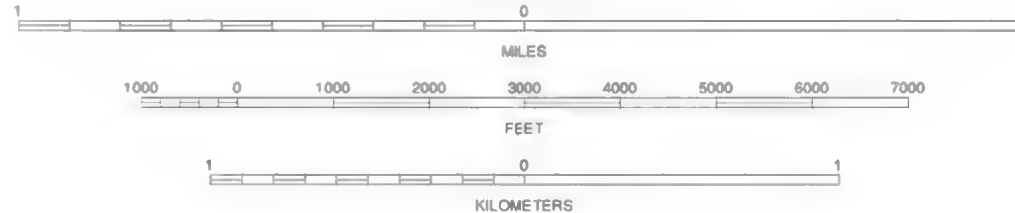
Joins sheet 51,
Litchfield

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1966
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



SCALE 1:24000



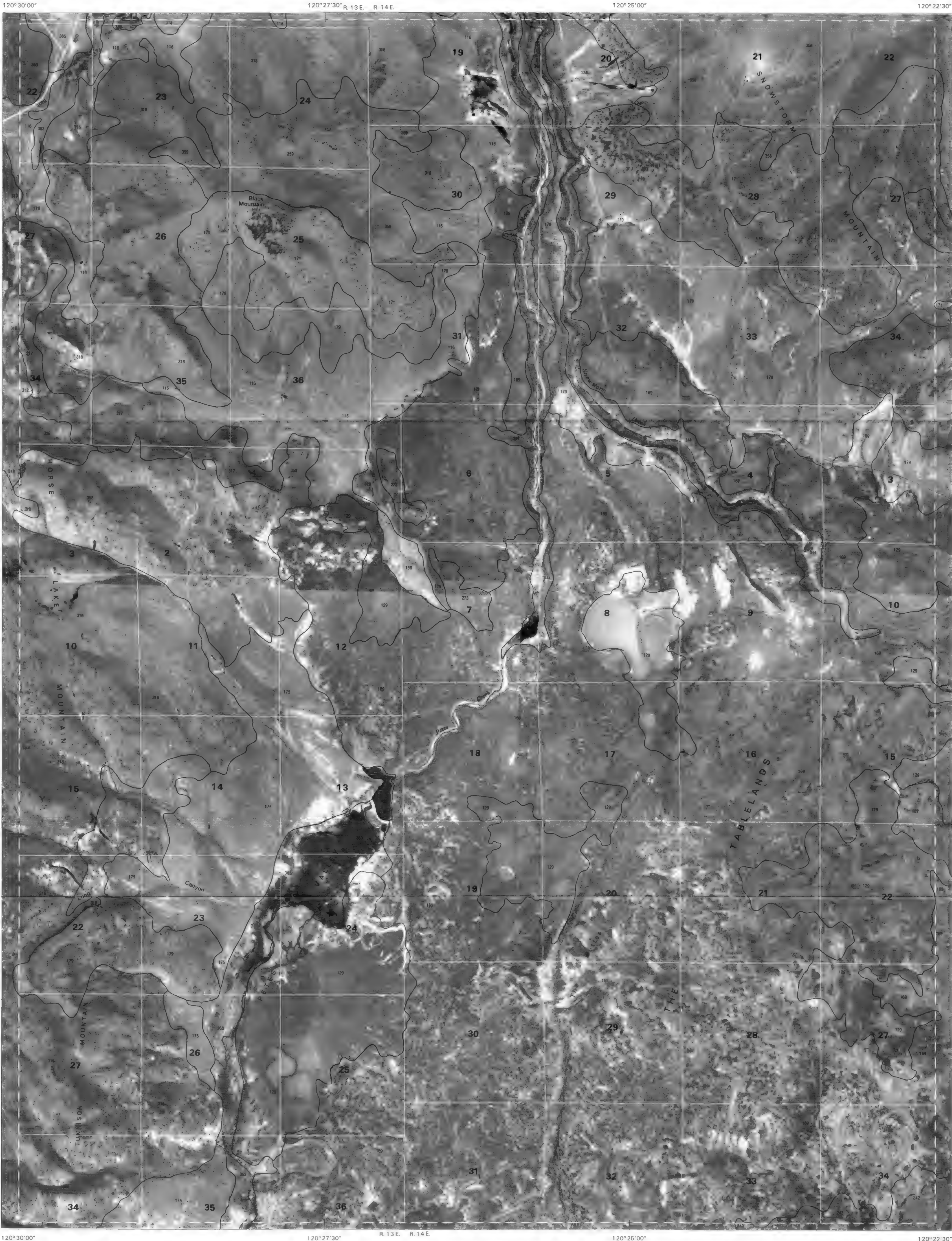
KILOMETERS



QUADRANGLE LOCATION

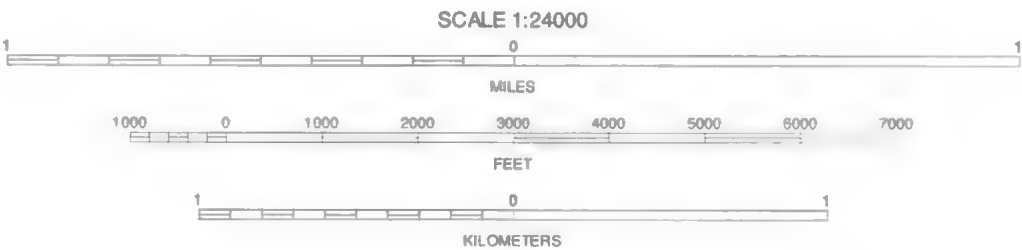
TUNNISON MOUNTAIN, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 39 OF 83

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.



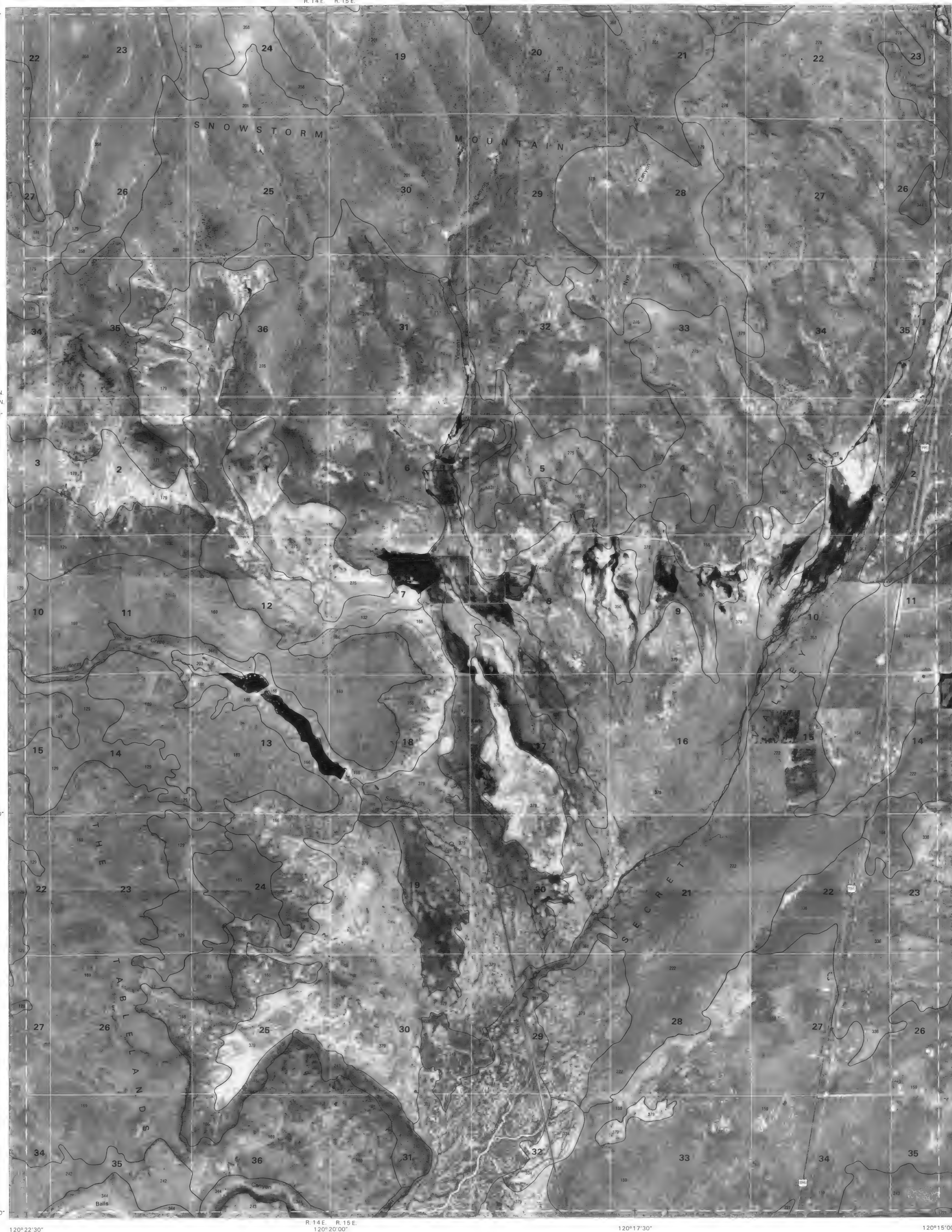
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



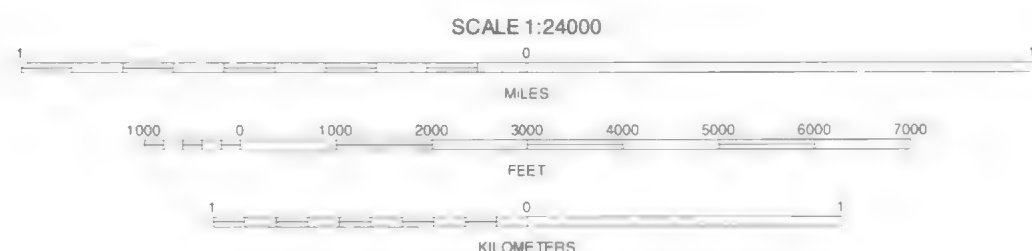
PETES VALLEY, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 40 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

KARLO, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 41 OF 83

Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets.

120°15'00" R. 15 E. R. 16 E. 120°12'30" 120°10'00" 120°07'30"

40°37'30"

40°37'30"

T. 32 N.
T. 31 N.
40°35'00"

T. 32 N.
T. 31 N.
40°35'00"

40°32'30"

40°32'30"

40°30'00"

40°30'00"



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



Joins sheet 53, Little Mud Flat

SCALE 1:24000



0 1 KILOMETERS

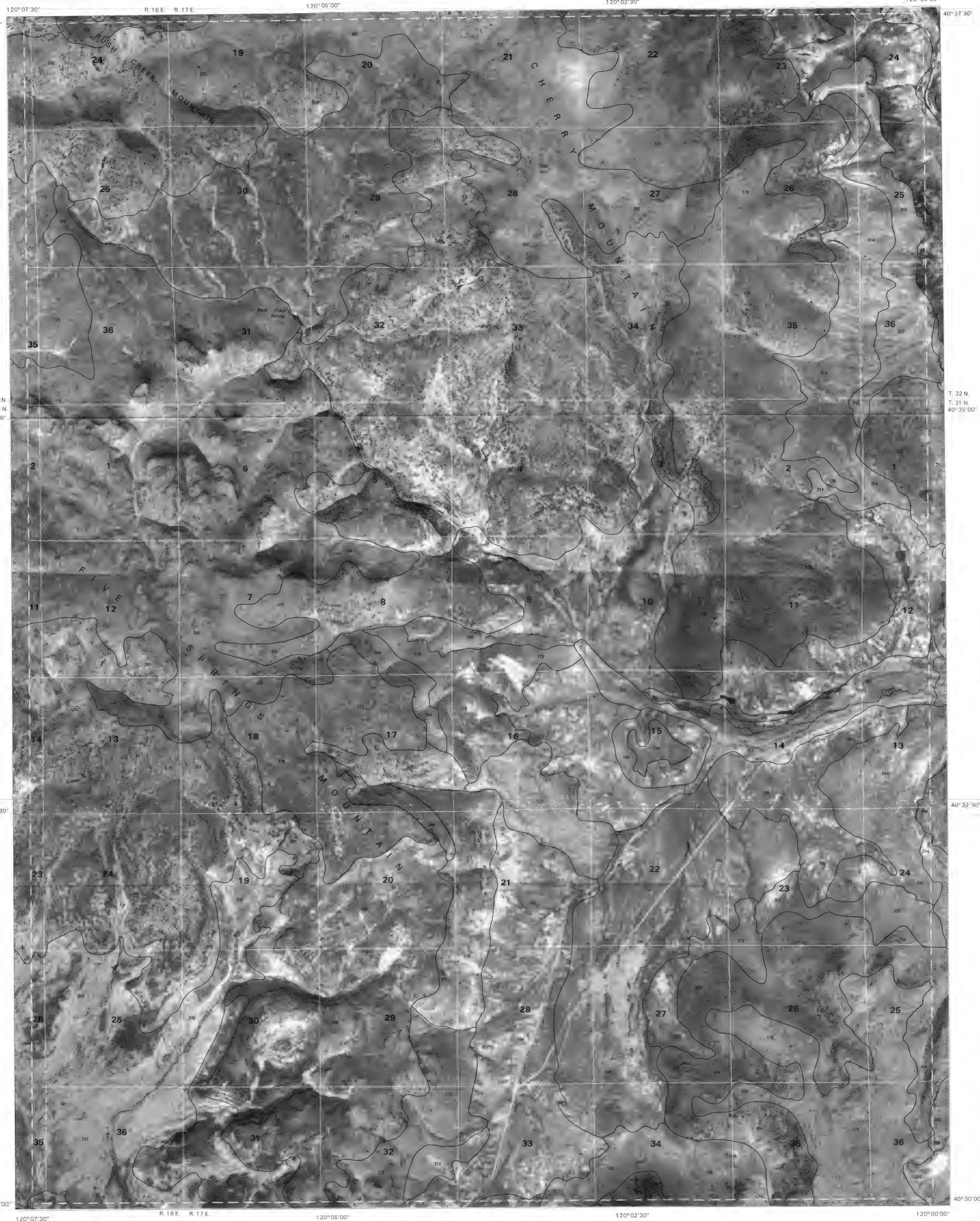


QUADRANGLE LOCATION

FIVE SPRINGS, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 42 OF 83

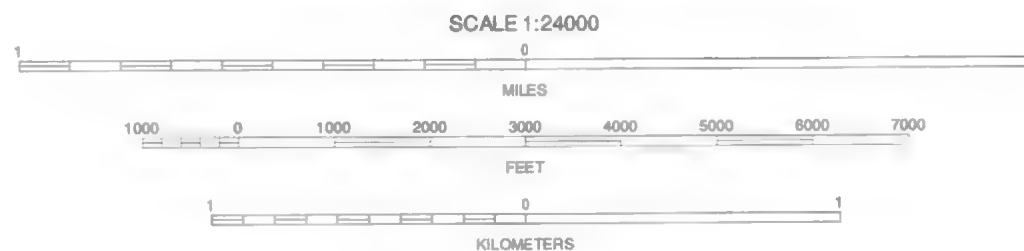
Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets.

Joins sheet 54, Bull Flat



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks; Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

CHERRY MOUNTAIN, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 43 OF 83

Soil map delineations extending beyond the dashed white quadrangle nealines are for reference only and are included on adjacent map sheets.

120°00'00"
R. 17 E. R. 18 E

119°57'30"

Joins sheet 35, Mixie Flat

119°55'00"

119°52'30"

40°37'30"

40°37'30"

T. 32 N.
T. 31 N.
40°35'00"

T. 31 N.

40°35'00"

40°32'30"

40°32'30"

40°30'00"

40°30'00"

R. 17 E. R. 18 E
120°00'00"

119°57'30"

Joins sheet 55, Red Rock Canyon

119°55'00"

R. 18 E. R. 19 E

119°52'30"

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 11.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

SCALE 1:24000

0 1000 2000 3000 4000 5000 6000 7000
MILES
0 1000 2000 3000 4000 5000 6000 7000
FEET

0 1000 2000 3000 4000 5000 6000 7000
KILOMETERS

QUADRANGLE LOCATION

SMOKE CREEK RANCH, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 44 OF 83

Soil map delineations extending beyond the dashed white quadrangle nestline are for reference only and are included on adjacent map sheets.

121°15'00"

121°12'30"

121°10'00"

121°07'30"

40°30'00"

40°30'00"

40°27'30"

40°27'30"

40°25'00"

40°25'00"

T. 30 N.
T. 29 N.

T. 30 N.
T. 29 N.

40°22'30"

40°22'30"

121°15'00"

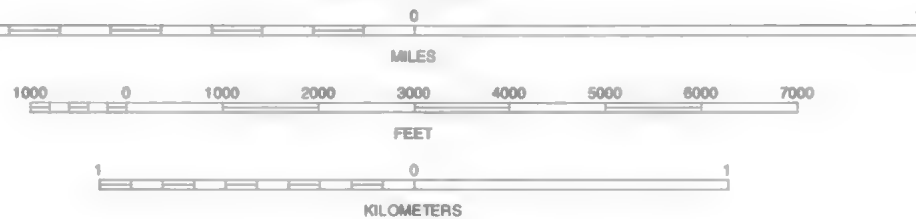
121°12'30"

121°10'00"

121°07'30"

Joins sheet 57, Chester

SCALE 1:24000



QUADRANGLE LOCATION

RED CINDER, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 45 OF 83

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1983-1999 aerial photography. Public Land Survey (PLS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

Joins sheet 46, Swamp Mountain

Joins sheet 58, Westwood West

121° 07' 30" 121° 05' 00" 121° 02' 30" 121° 00' 00"

40° 30' 00"

40° 30' 00"

40° 27' 30"

40° 27' 30"

40° 25' 00"

40° 25' 00"

T. 30 N.
T. 29 N.

T. 30 N.
T. 29 N.

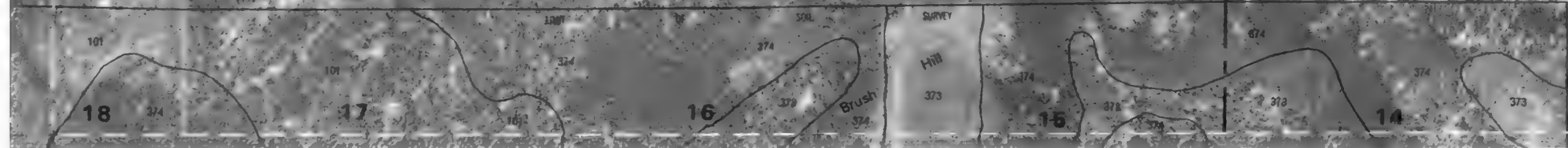
40° 22' 30"

40° 22' 30"



Joins sheet 45, Bear Creek

Joins sheet 47, Picking Mountain



R. 8 E. R. 9 E.

121° 00' 00"

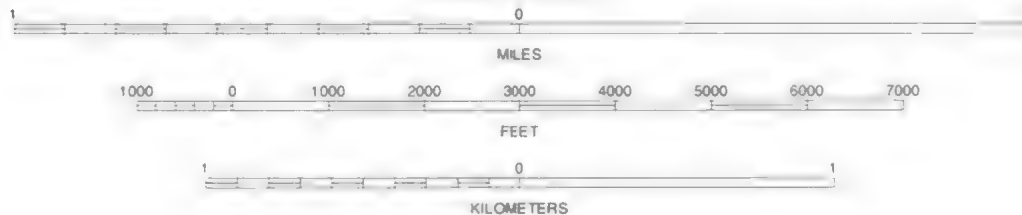
121° 07' 30"

121° 05' 00"

121° 02' 30"

Joins sheet 58, Westwood West

SCALE 1:24000



NORTH

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1983-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks; Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

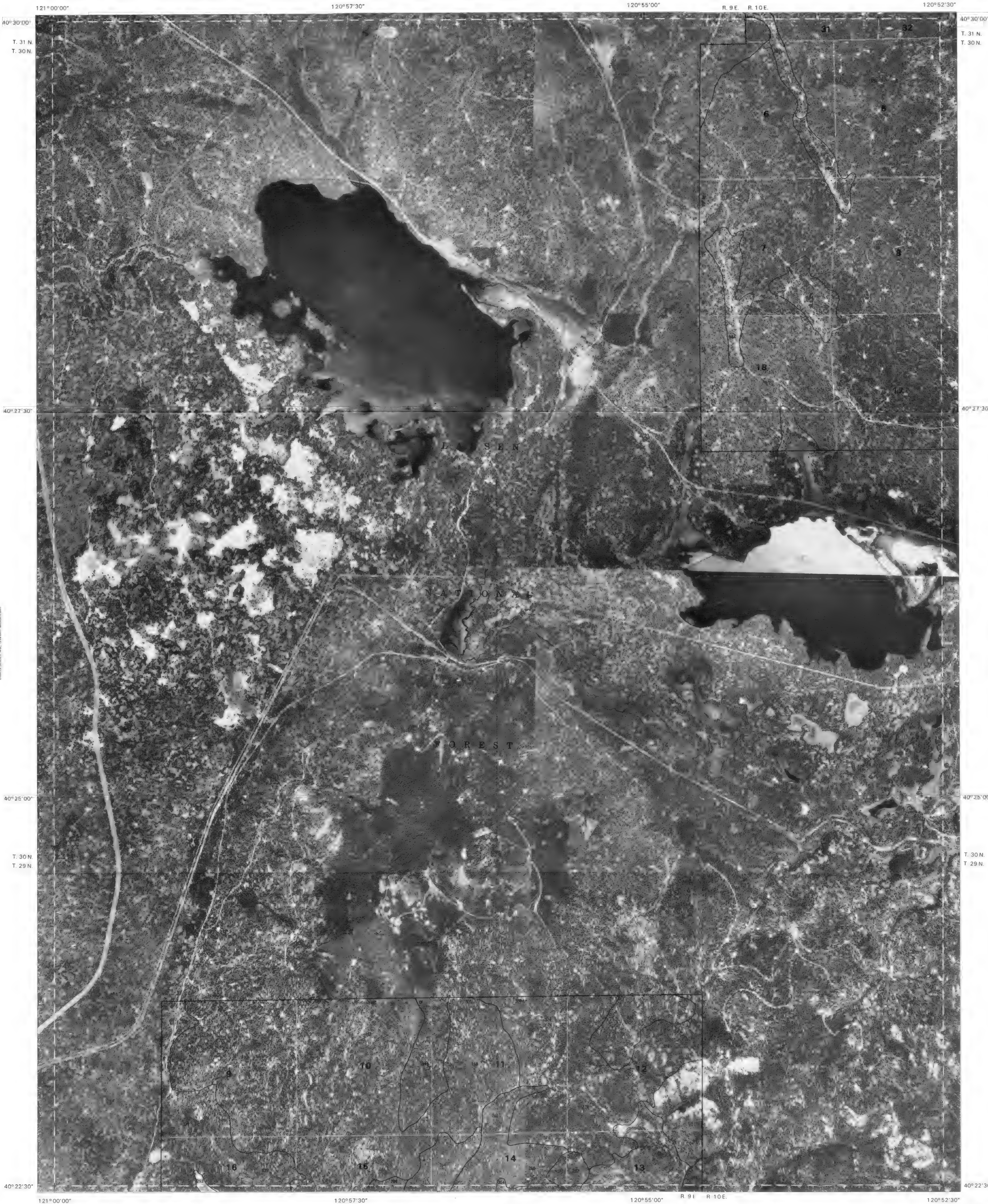
SWAIN MOUNTAIN, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 46 OF 83

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

QUADRANGLE LOCATION

Joins sheet 57, Clearer

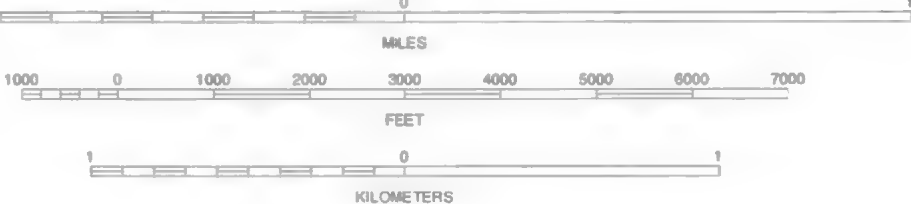
Joins sheet 59, Viewpoint East



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

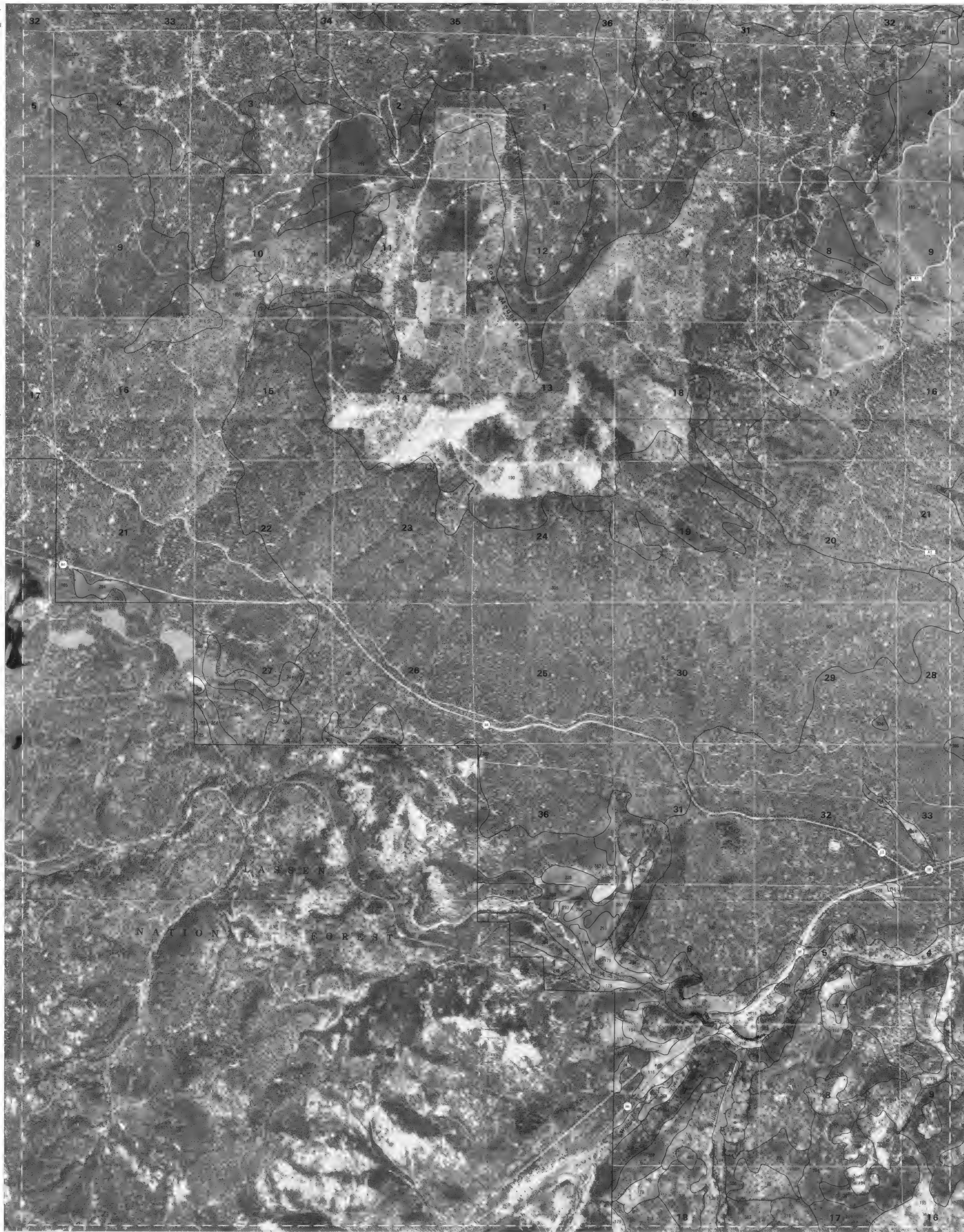
SCALE 1:24000



QUADRANGLE LOCATION

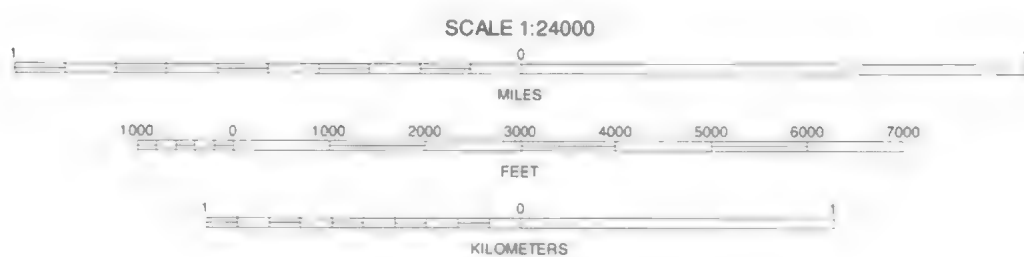
PEGLEG MOUNTAIN, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 47 OF 83

Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

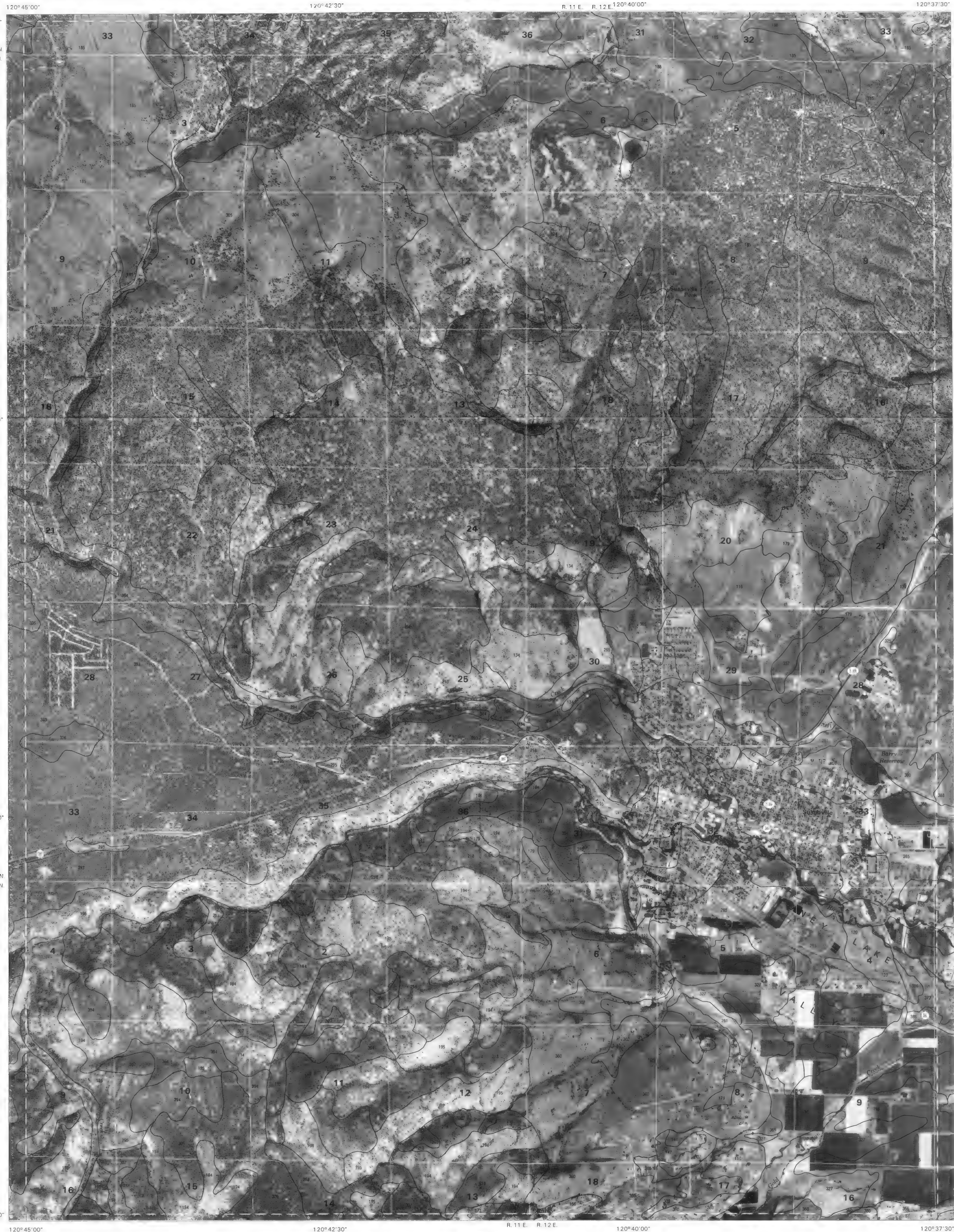
North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



ROOP MOUNTAIN, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 48 OF 83

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

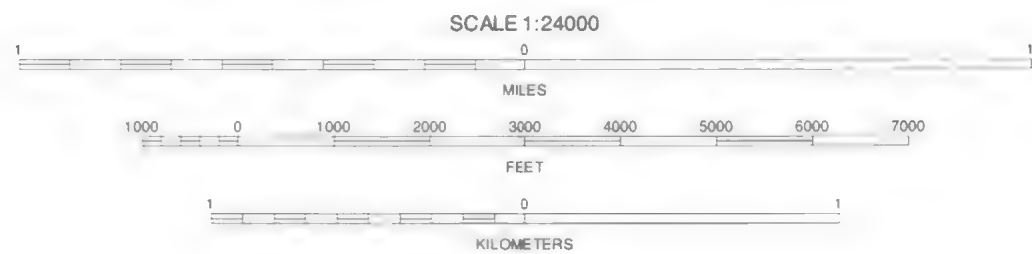
QUADRANGLE LOCATION



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1953-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication or topography and to enhance the clarity of the soil information.

North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION

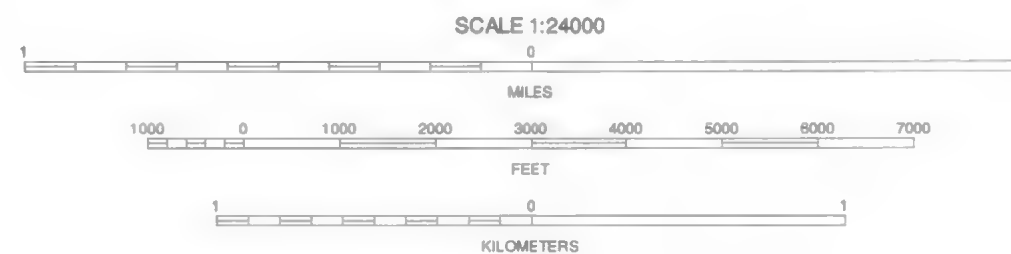
SUSANVILLE, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 49 OF 83

Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1886 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

JOHNSTONVILLE, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 50 OF 83

Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets.

120°30'00" 120°27'30" R. 13 E. R. 14 E. 120°25'00" 120°22'30"

40°30'00"
T. 31 N.
T. 30 N.

40°30'00"
T. 31 N.
T. 30 N.

40°27'30"

40°27'30"

40°25'00"

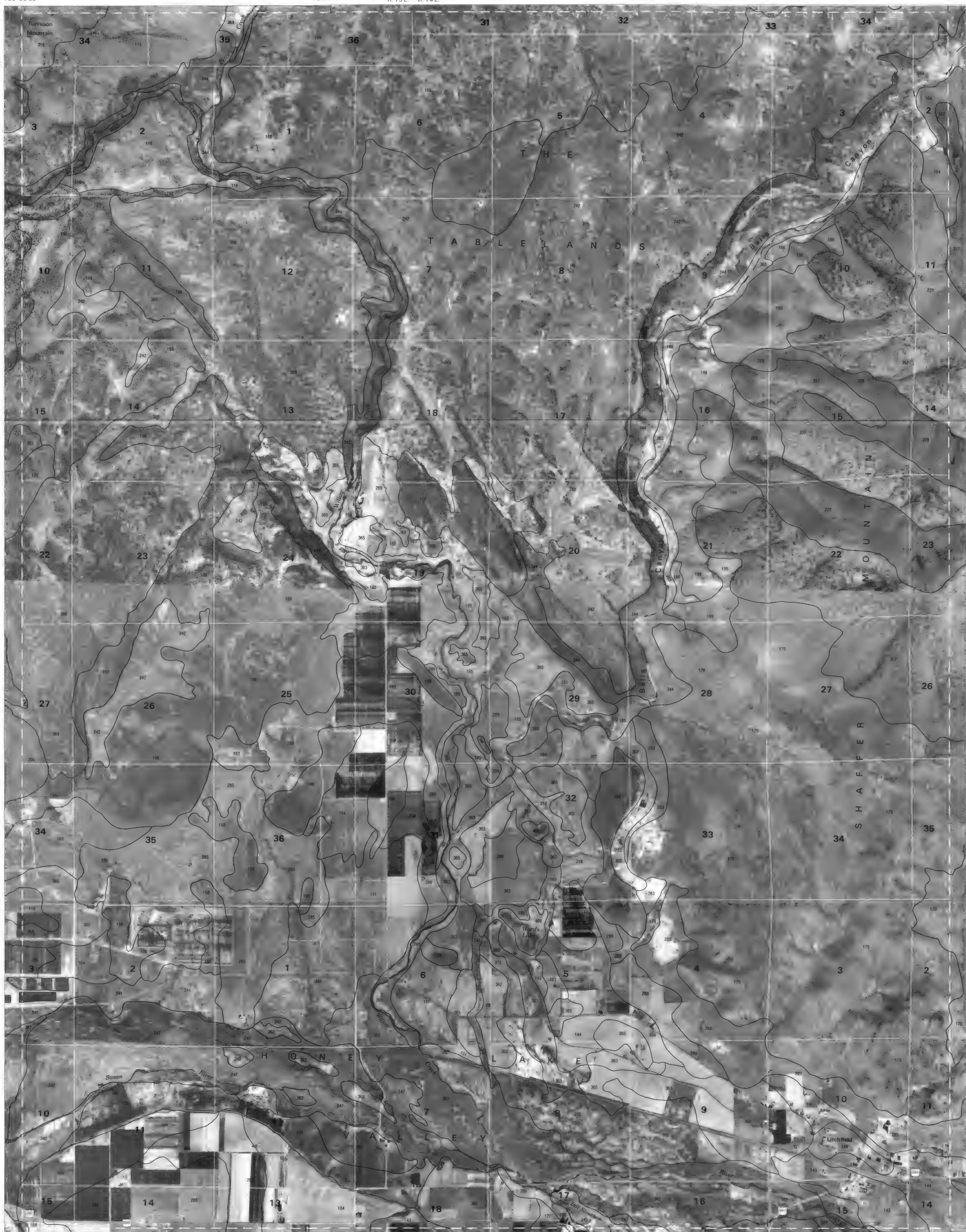
40°25'00"

T. 30 N.
T. 29 N.

T. 30 N.
T. 29 N.

40°22'30"

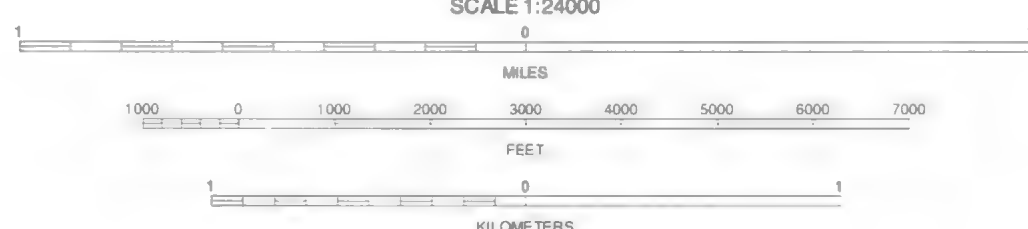
40°22'30"



R. 13 E. R. 14 E. 120°27'30" 120°25'00" 120°22'30"

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

LITCHFIELD, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 51 OF 83

Soil map delineations extending beyond the dashed white quadrangle neeline are for reference only and are included on adjacent map sheets.

120°20'00"
R. 14 E. R. 15 E.

Joins sheet 41, Karlo

120°17'30"

120°15'00"

40°30'00"
T. 31 N.
T. 30 N.

40°30'00"
T. 31 N.
T. 30 N.

40°27'30"

40°27'30"

40°25'00"

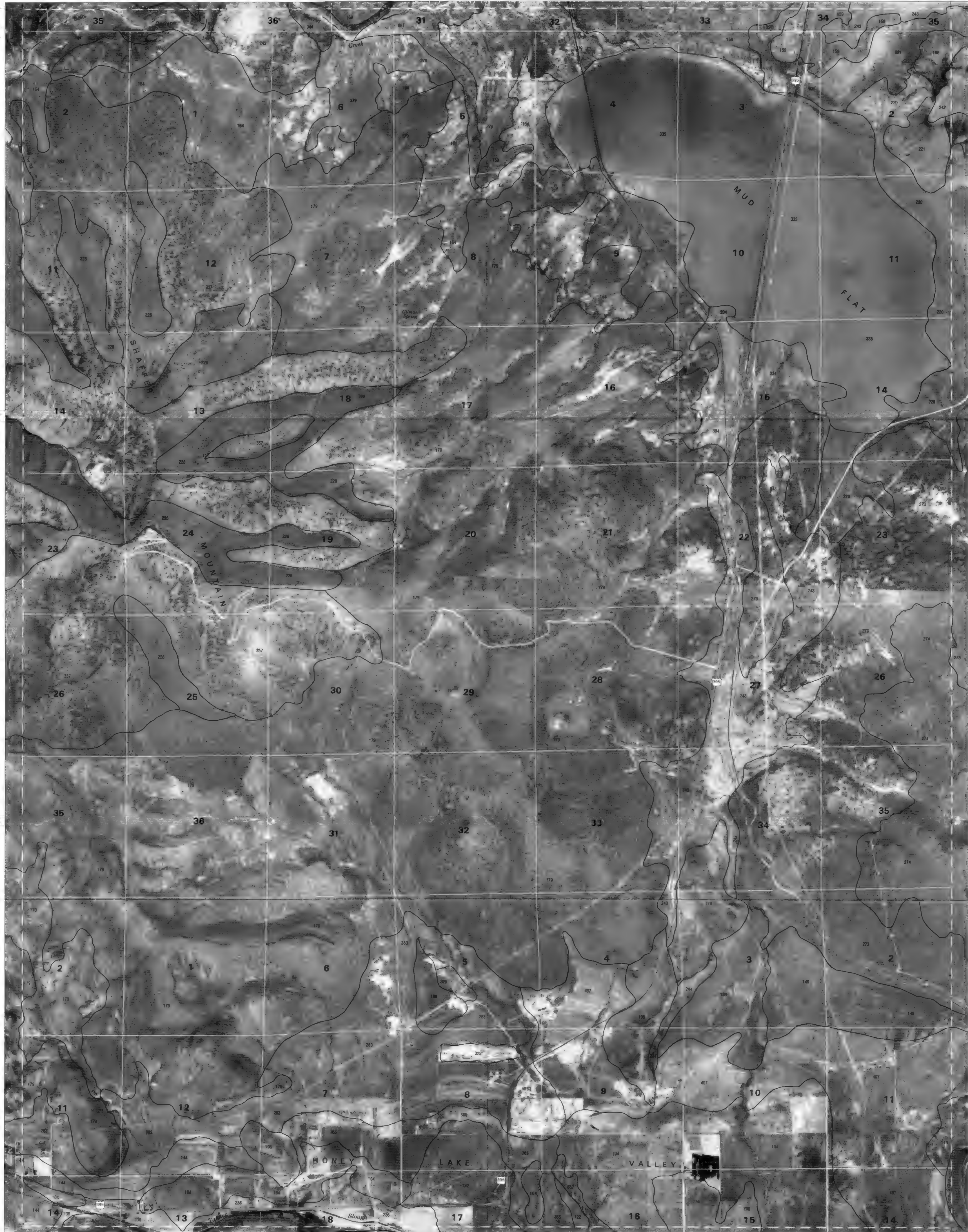
40°25'00"

T. 30 N.
T. 29 N.

T. 30 N.
T. 29 N.

40°22'30"

40°22'30"



120°22'30" R. 14 E. R. 15 E. 120°20'00" 120°17'30" 120°15'00"

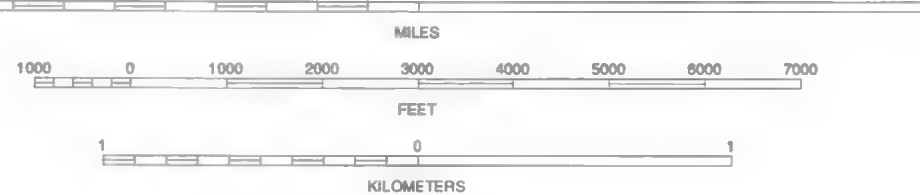
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

Joins sheet 64, Wendel Hot Springs

SCALE 1:24000



QUADRANGLE LOCATION

SHAFFER MOUNTAIN, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 52 OF 83

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

Joins sheet 42,
Five Springs

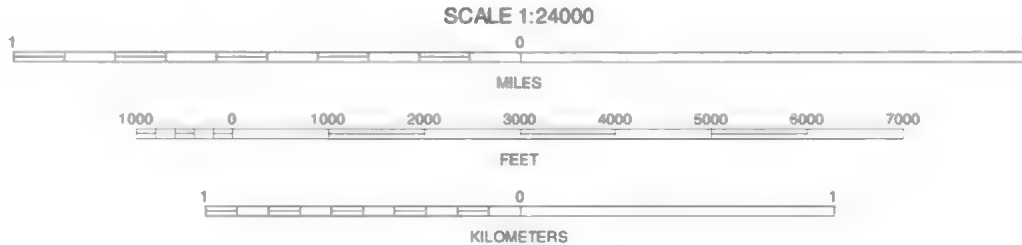
Joins sheet 53, Little Mud Flat

Joins sheet 65,
Wendel



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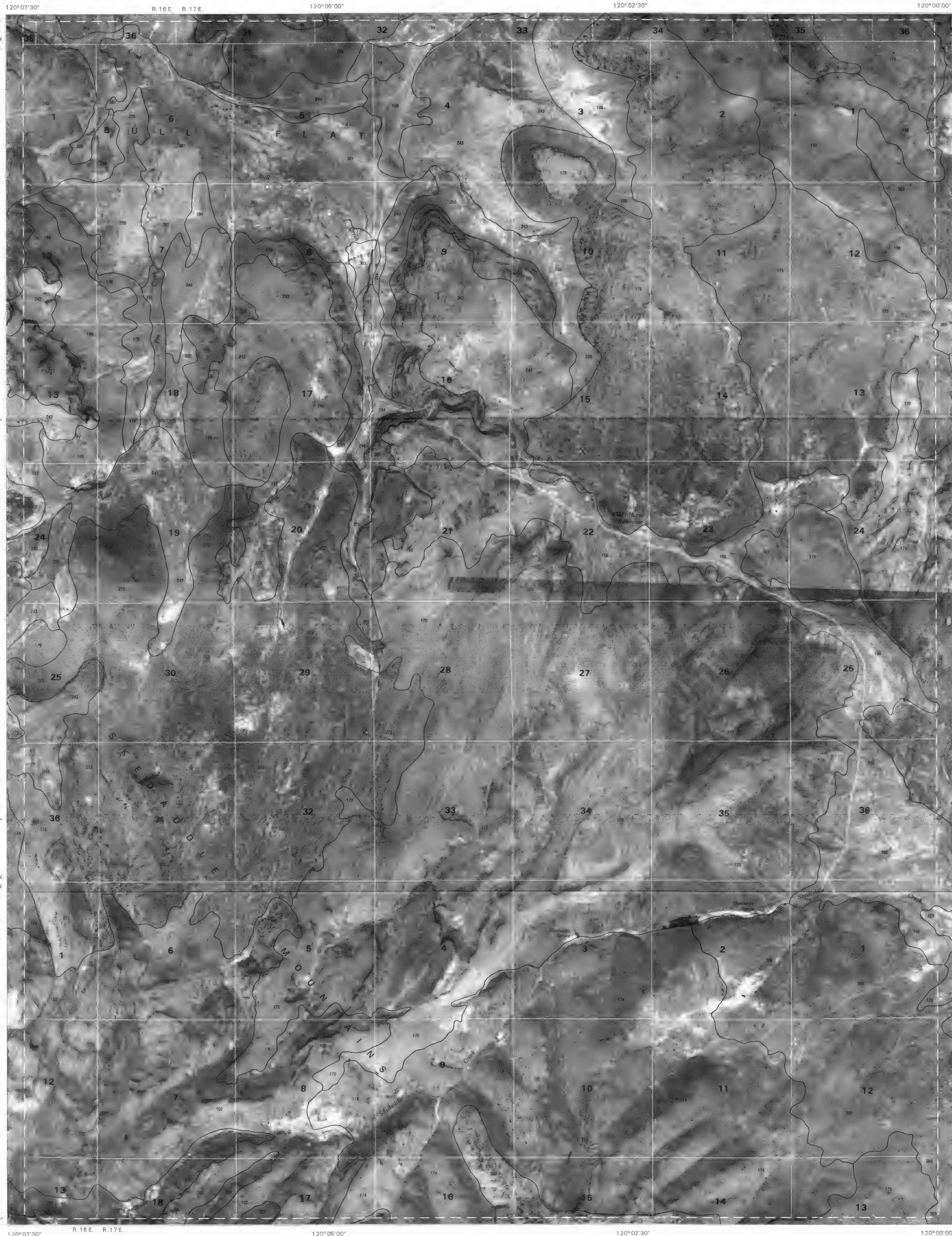
North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

LITTLE MUD FLAT, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 53 OF 83

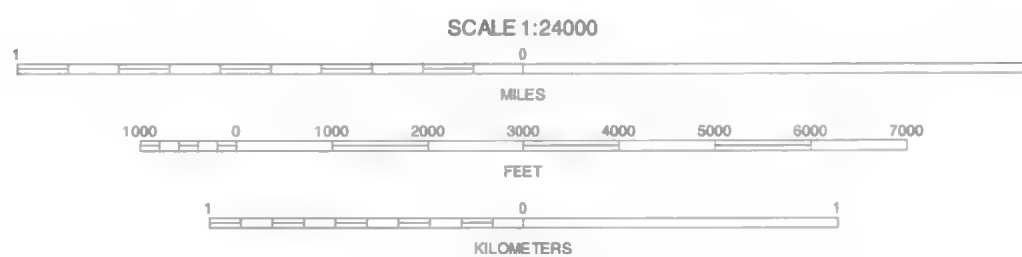
Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soil information.

North American Datum of 1983 (NAD83) Clark 1886 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



BULL FLAT, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 54 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

120°00'00"
R. 17 E. R. 18 E.

119°57'30"

119°55'00"

R. 18 E. R. 19 E.

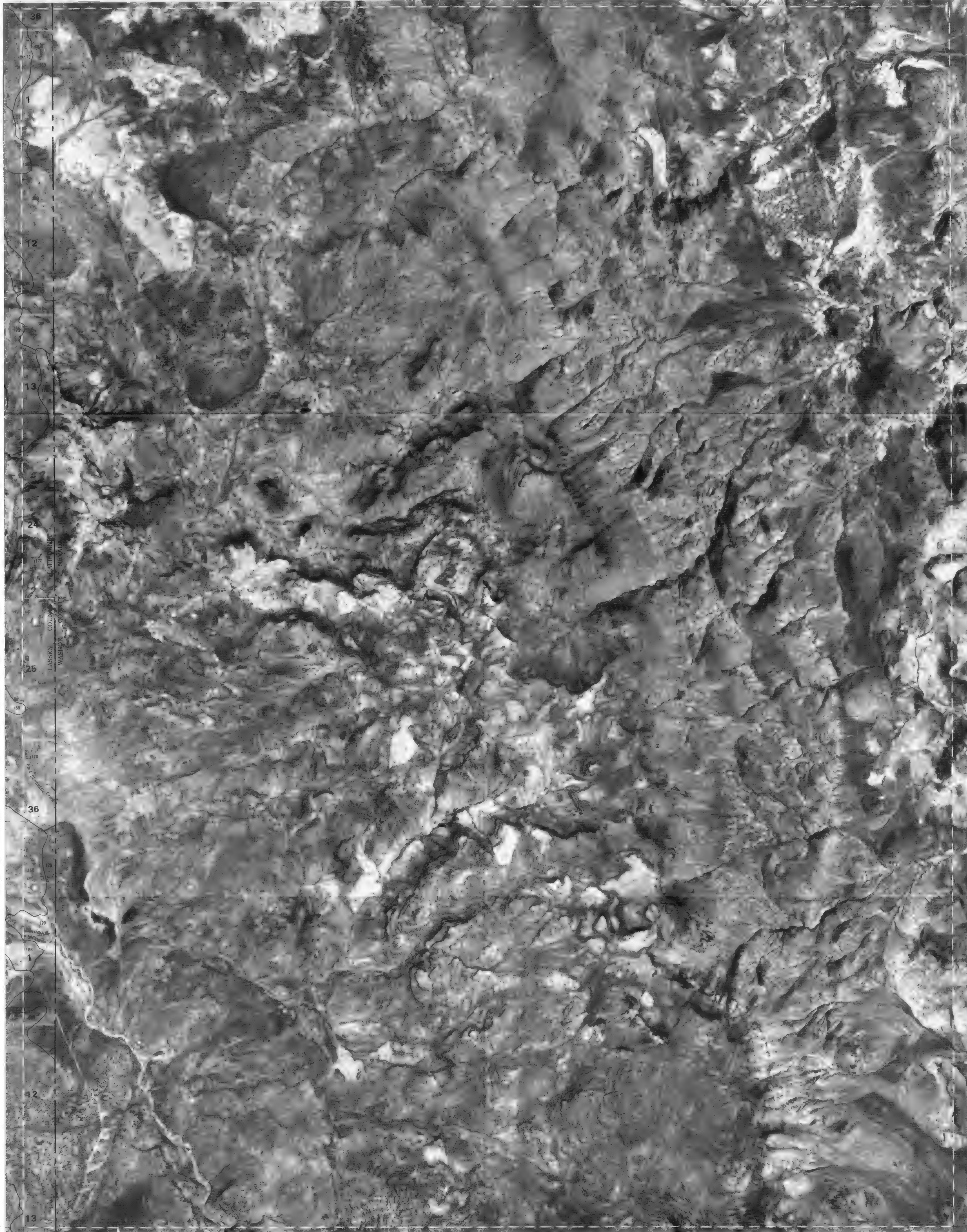
119°52'30"

40°30'00"
T. 31 N.
T. 30 N.

40°27'30"

40°25'00"
T. 30 N.
T. 29 N.

40°22'30"



40°30'00"

40°27'30"

T. 30 N.
T. 29 N.

40°25'00"

40°22'30"

R. 17 E. R. 18 E.

119°57'30"

119°55'00"

R. 18 E. R. 19 E.

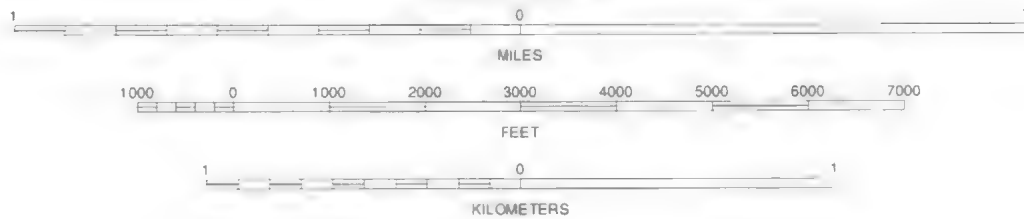
119°52'30"

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North American Datum of 1983 (NAD83) Clark, 1866 1000-meter ticks; Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

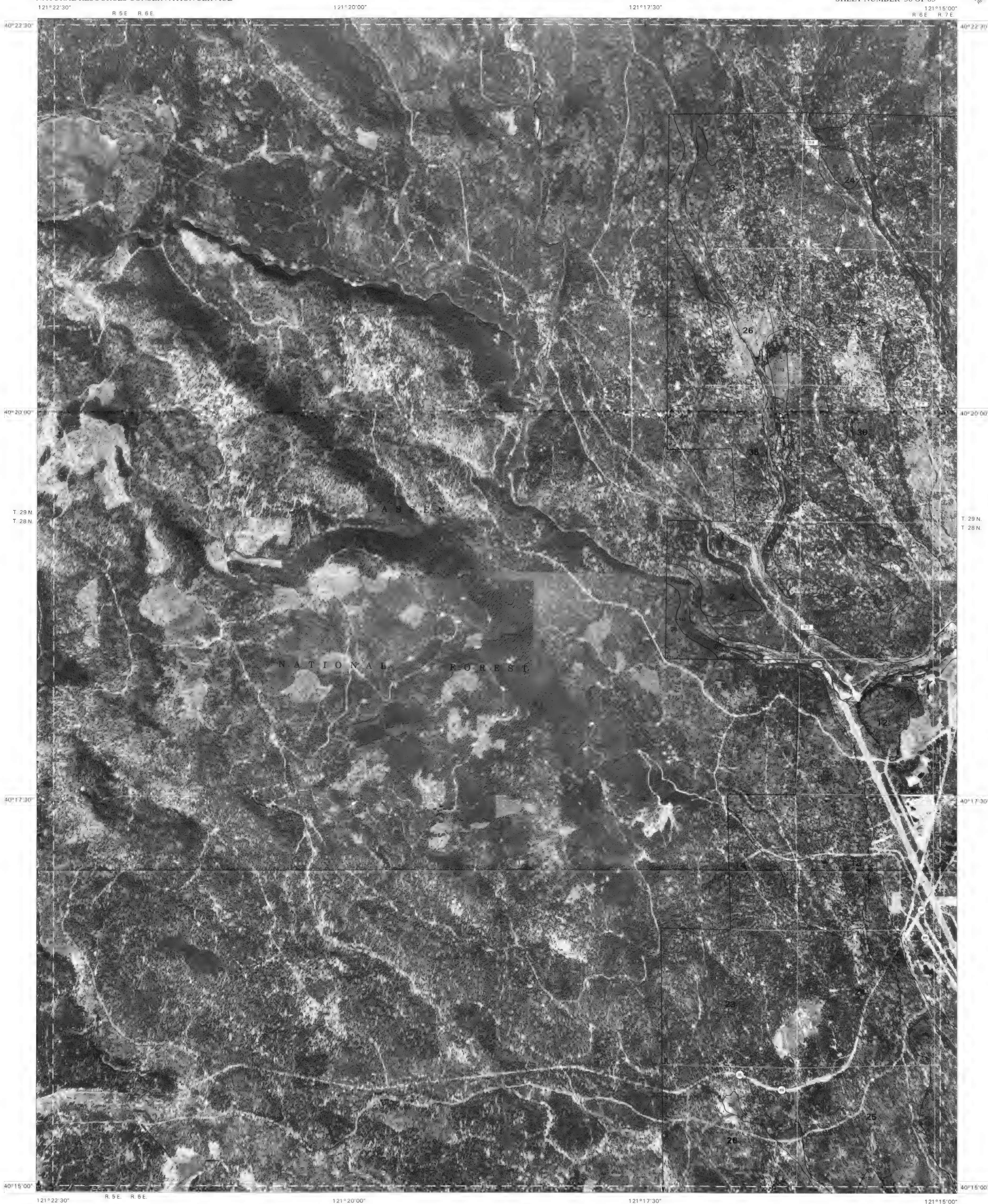
SCALE 1:24000



QUADRANGLE LOCATION

RED ROCK CANYON, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 55 OF 83

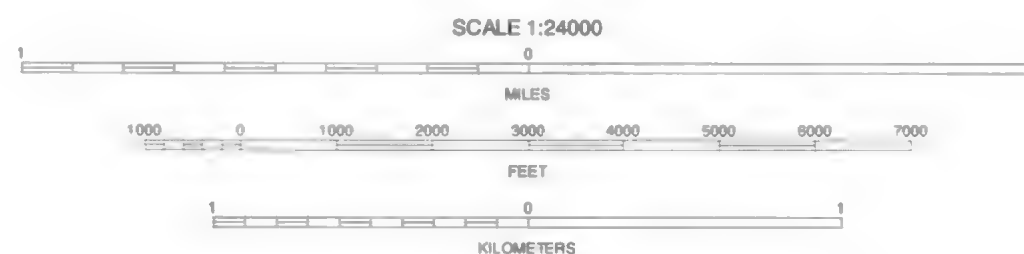
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.



Join sheet 57, Chatter

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

STOVER MOUNTAIN, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 56 OF 83

Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets.

Join sheet 69,
Alamogordo



Joins sheet 56, Sycamore Mountain

Joins sheet 58, Westward West

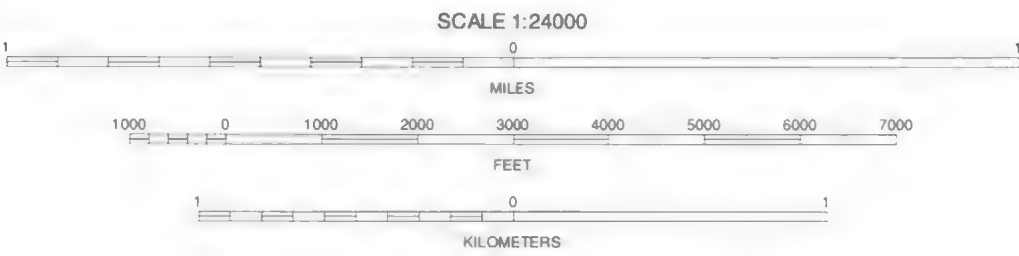
Joins sheet 68,
Humboldt Valley

Joins sheet 10,
Campbell

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

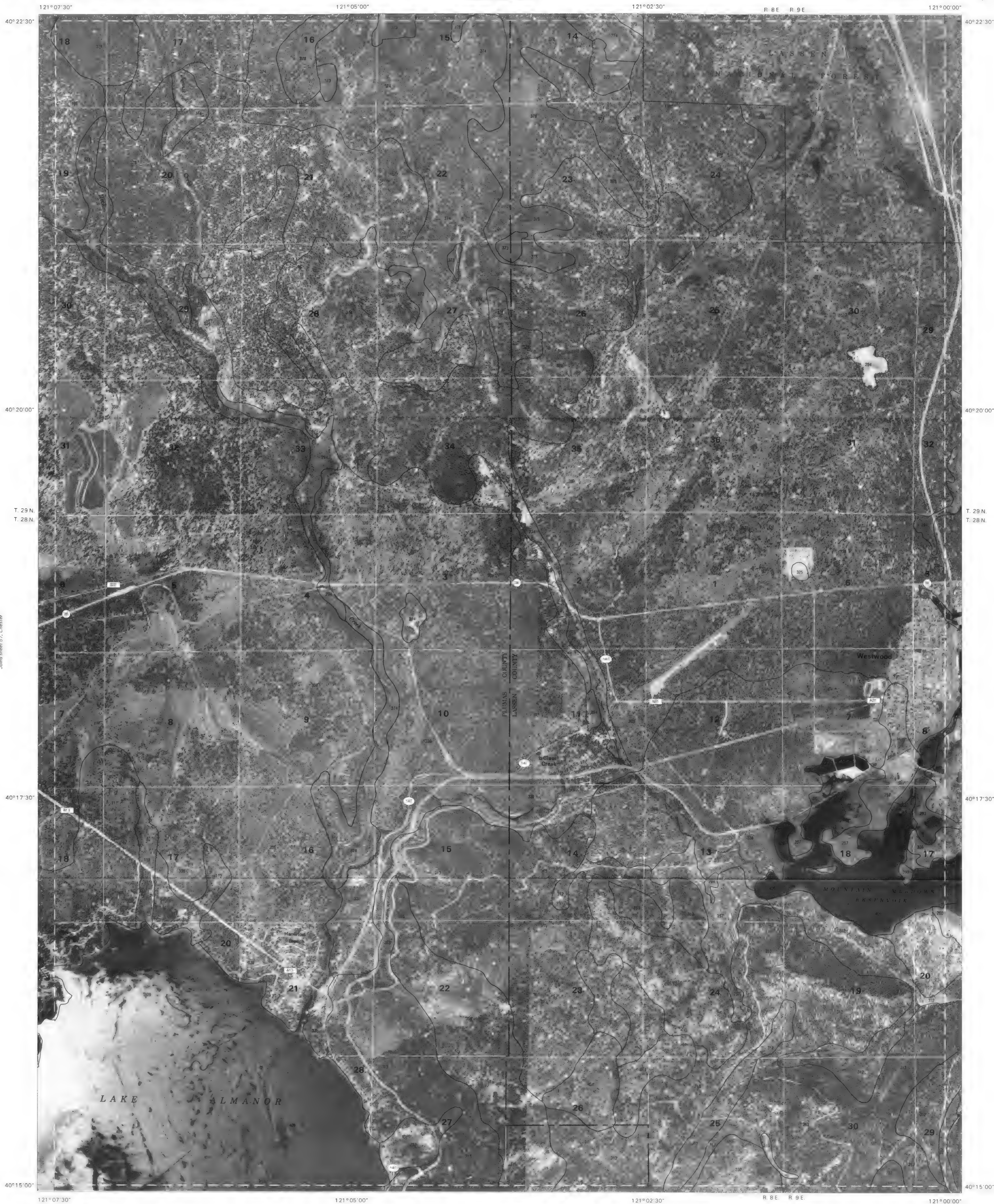
NORTH



QUADRANGLE LOCATION

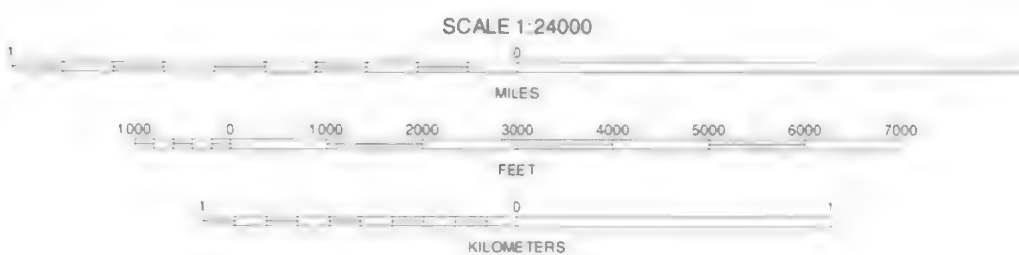
CHESTER, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 57 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

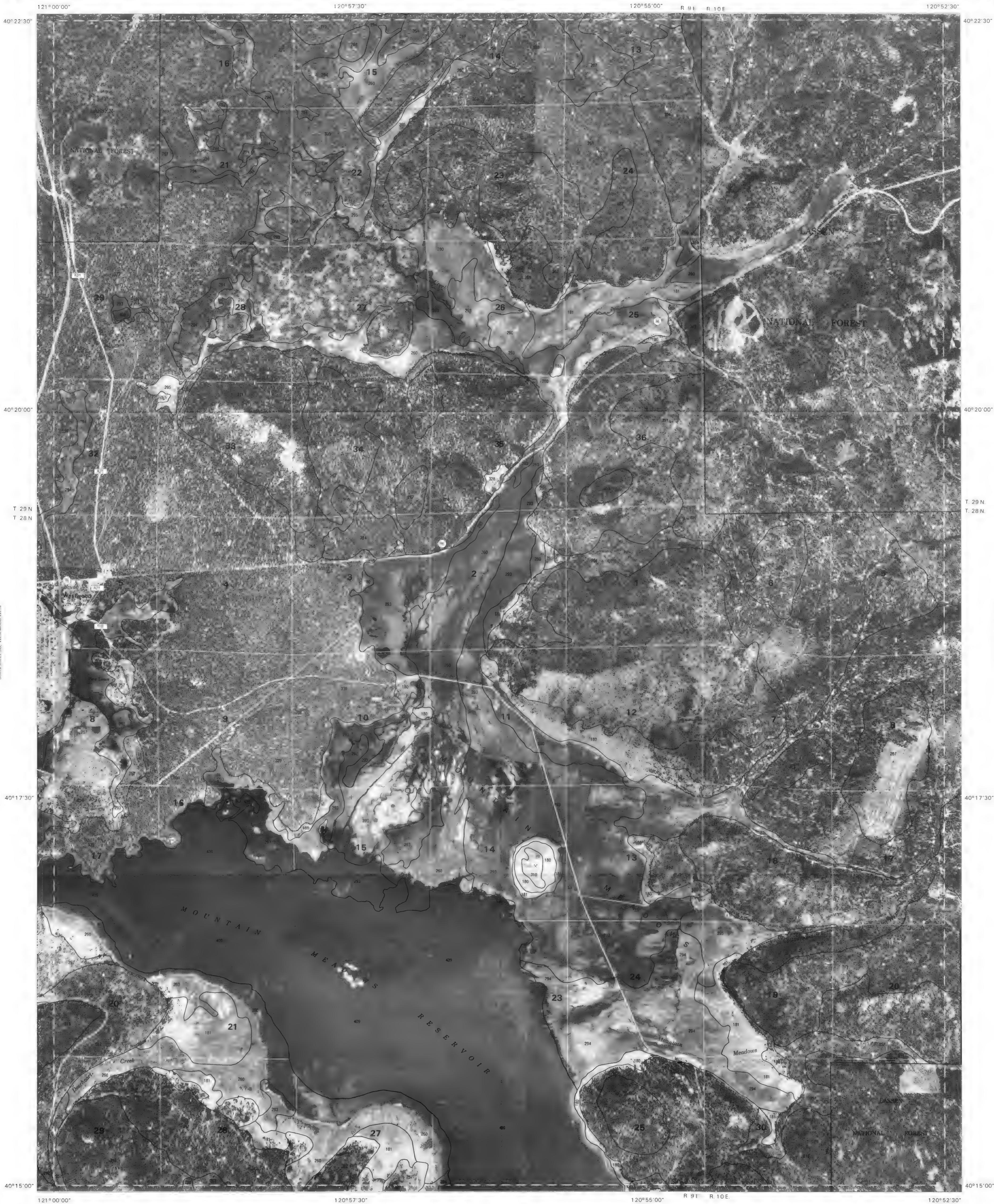
North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

WESTWOOD WEST, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 58 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

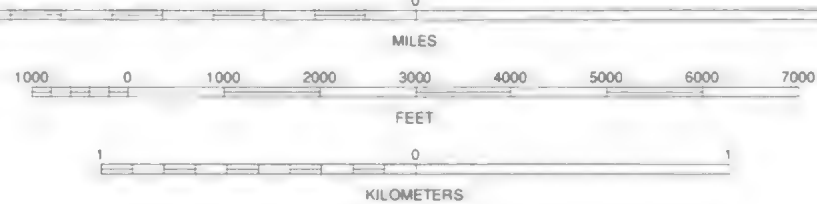


This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

Joins sheet 71, Greenville

SCALE 1:24000



QUADRANGLE LOCATION

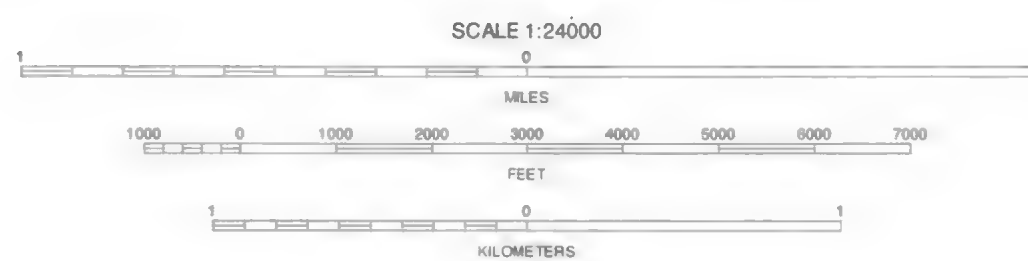
WESTWOOD EAST, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 59 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



FREDONYER PASS, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 60 OF 83

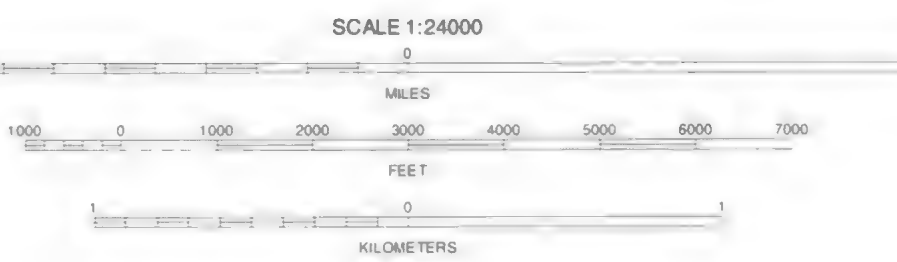
Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks, Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION

DIAMOND MOUNTAIN, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 61 OF 83

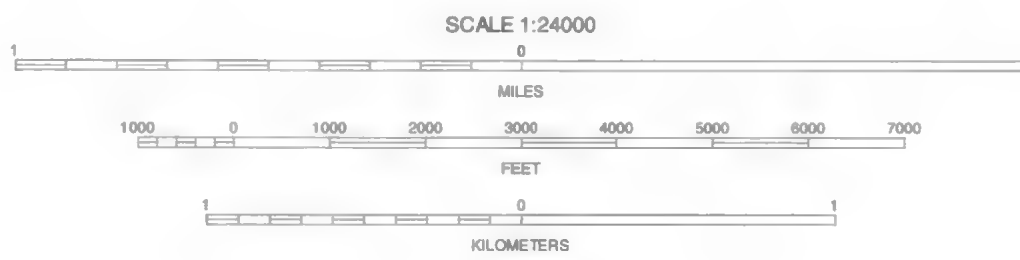
Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION

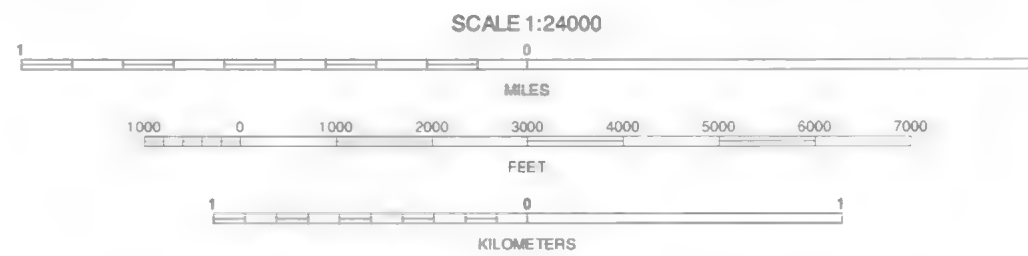
JANESVILLE, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 62 OF 83

Soil map delineations extending beyond the dashed white quadrangle neoline are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



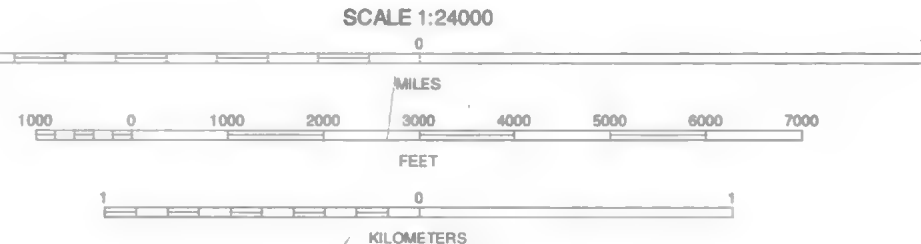
STANDISH, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 63 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

WENDEL HOT SPRINGS, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 64 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

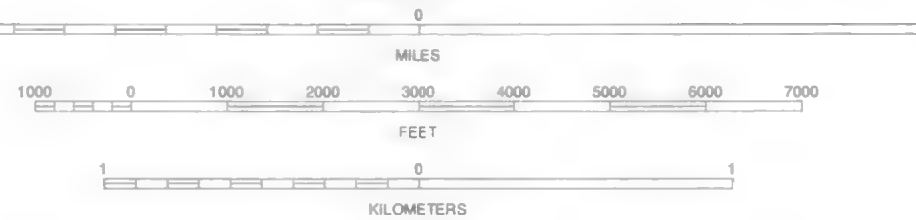


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North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

Joins sheet 74, Herlong

SCALE 1:24000



QUADRANGLE LOCATION

WENDEL, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 65 OF 83

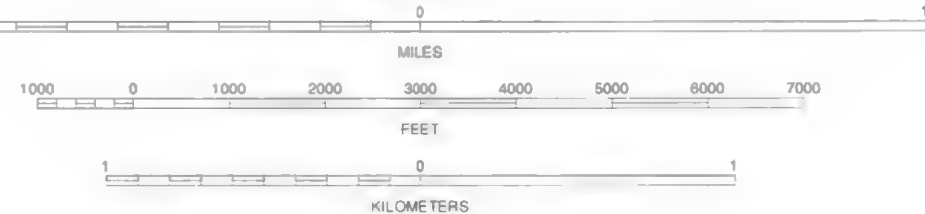
Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

SCALE 1:24000



SPENCER CREEK, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 66 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

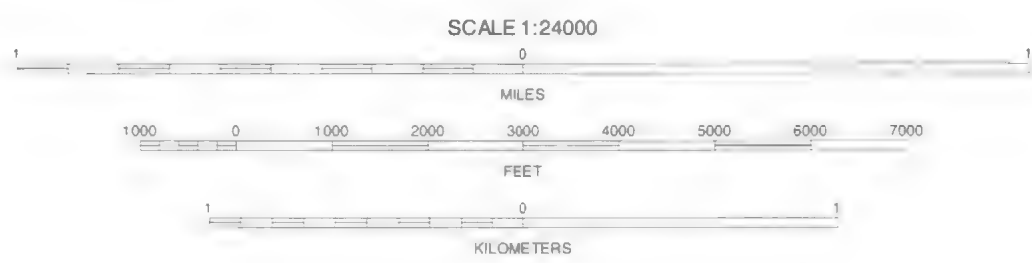
120°00'00" 119°57'30" 119°55'00" 119°52'30"
R. 17 E. R. 18 E. R. 18 E. R. 19 E.



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 11.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION

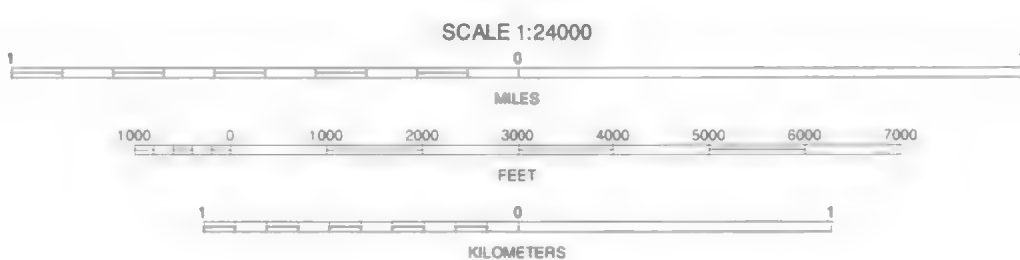
PARKER CANYON, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 67 OF 83

Soil map delineations extending beyond the dashed white quadrangle nestline are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



HUMBUG VALLEY, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 68 OF 83

Soil map delineations extending beyond the dashed white quadrangle neeline are for reference only and are included on adjacent map sheets.

121°15'00"
R. 6 E. R. 7 E.

121°12'30"

Joins sheet 57, Chester

121°10'00"

R. 7 E. R. 8 E.

121°07'30"

Joins sheet 68, Humboldt Valley

40°15'00"

T. 28 N.
T. 27 N.

40°12'30"

40°10'00"

T. 27 N.
T. 26 N.

40°07'30"



T. 28 N.
T. 27 N.

40°12'30"

40°10'00"

T. 27 N.
T. 26 N.

40°07'30"

R. 6 E. R. 7 E.
121°15'00"

121°12'30"

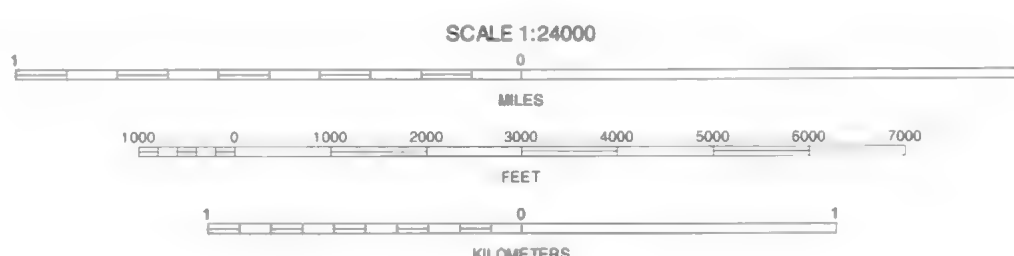
121°10'00"

R. 7 E. R. 8 E.

121°07'30"

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

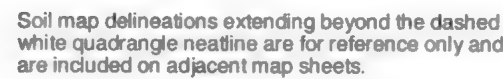
North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

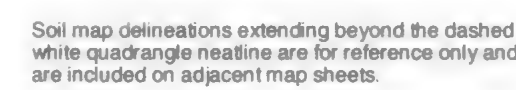


QUADRANGLE LOCATION

ALMANOR, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 69 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.



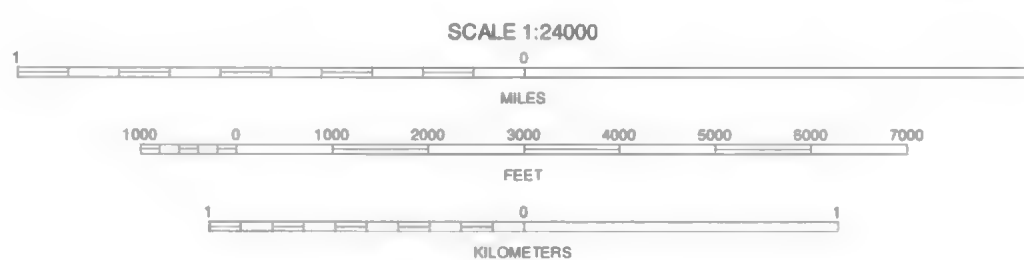




This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1983-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION

STONY RIDGE, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 72 OF 83

Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets.

120°22'30"

120°20'00"

120°17'30"

120°15'00"

40°15'00"

40°12'30"

40°10'00"

T. 27 N.

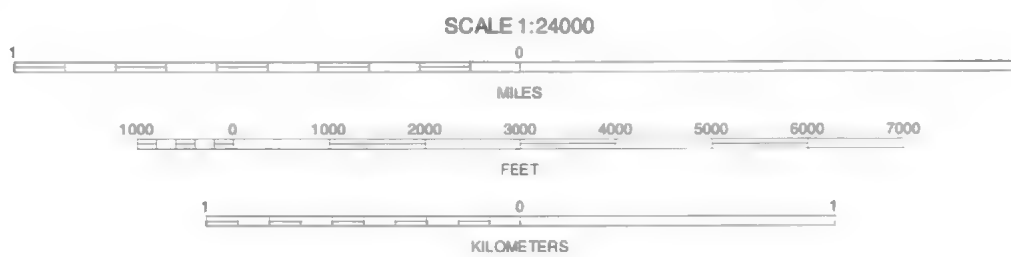
T. 26 N.

40°07'30"



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



MILFORD, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 73 OF 83

Soil map delineations extending beyond the dashed white quadrangle neoline are for reference only and are included on adjacent map sheets.

120°15'00"

120°12'30"

120°10'00"

120°07'30"

40°15'00"

40°15'00"

40°12'30"

40°12'30"

40°10'00"

40°10'00"

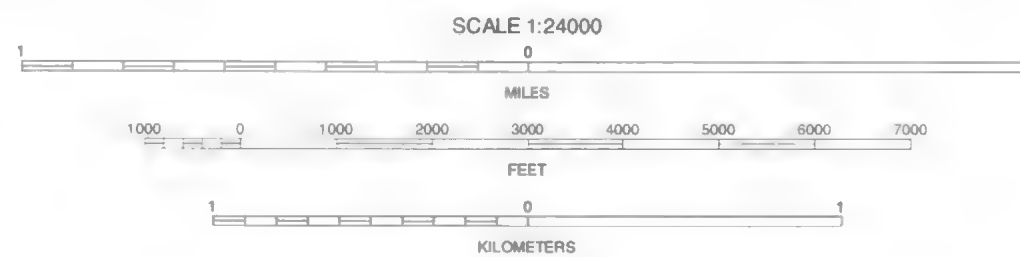
40°07'30"

40°07'30"



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1966 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

HERLONG, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 74 OF 83

Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets.

Joins sheet 64,
Wendel
Spring Creek

Joins sheet 65, Wendel

Joins sheet 66,
Spring Creek

Joins sheet 73, Millard

Joins sheet 75, Chiricua Lake

Joins sheet 77,
Spring Creek

Joins sheet 78, McKesick Peak

Joins sheet 79,
Spring Creek



North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are
approximately positioned. Digital data are available for
this quadrangle.

SCALE 1:24000



Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

120°00'00"
R 17 E R 18 E

119°57'30"

119°55'00"

R 18 E R 19 E

119°52'30"

40°15'00"

40°15'00"

T. 28 N.
T. 27 N.

T. 28 N.
T. 27 N.

40°12'30"

40°12'30"

40°10'00"

40°10'00"

T. 27 N.
T. 26 N.

T. 27 N.
T. 26 N.

40°07'30"

40°07'30"

R 17 E R 18 E
120°00'00"

119°57'30"

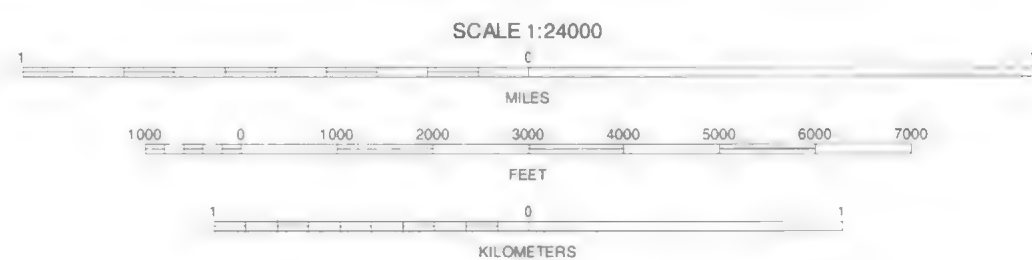
119°55'00"

R 18 E R 19 E

119°52'30"

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 11. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

FLANIGAN, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 76 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartine are for reference only and are included on adjacent map sheets.

120°22'30" R. 14 E. R. 15 E. 120°20'00" 120°17'30" 120°15'00"

40°07'30"

40°07'30"

40°05'00"

40°05'00"

T. 26 N.
T. 25 N.

T. 26 N.
T. 25 N.

40°02'30"

40°02'30"

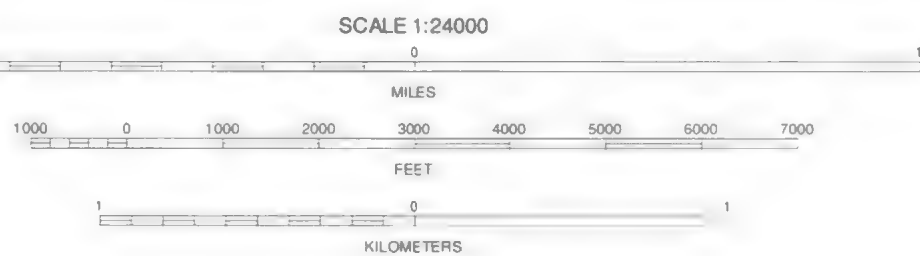
40°00'00"

40°00'00"

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks; Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



QUADRANGLE LOCATION

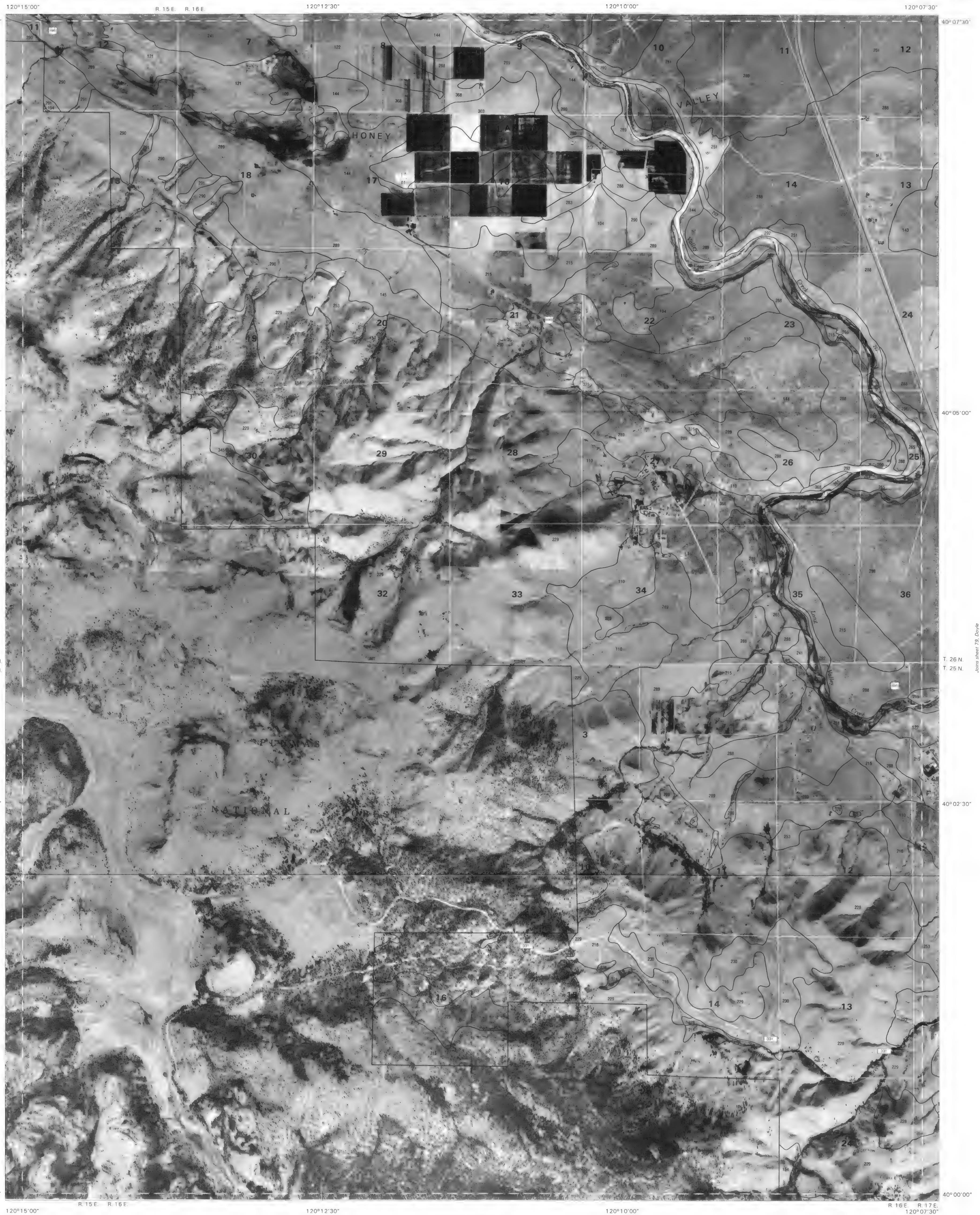
FERRIS CREEK, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 77 OF 83

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.

Join sheet 74,
Hunting

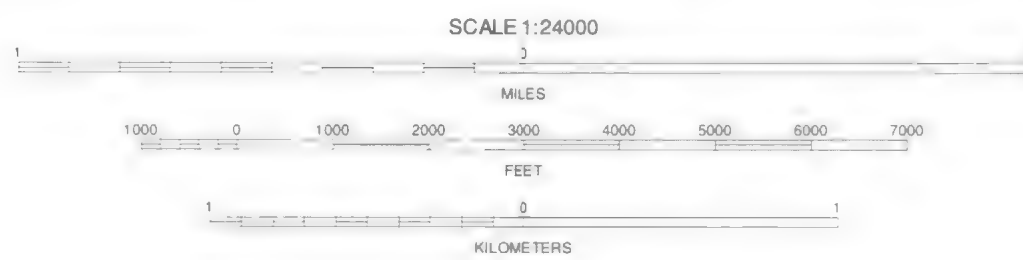
Join sheet 78, McKenick Peak

Join sheet 81,
Fritchman Lake



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1983-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

MCKESICK PEAK, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 78 OF 83

Soil map delineations extending beyond the dashed white quadrangle nealime are for reference only and are included on adjacent map sheets.

120° 07' 30" R. 16 E. R. 17 E.

120° 05' 00"

120° 02' 30"

120° 00' 00"

40° 07' 30"

40° 07' 30"

40° 05' 00"

40° 05' 00"

40° 02' 30"

40° 02' 30"

40° 00' 00"

40° 00' 00"

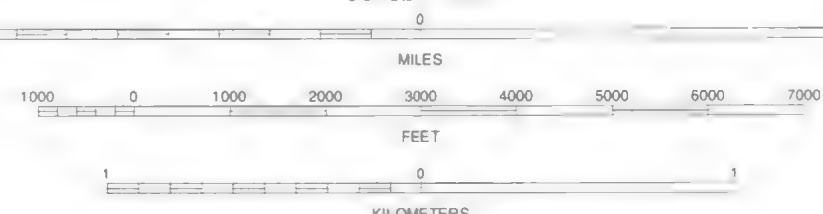


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North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

Joins sheet 82, Constantia

SCALE 1:24000



QUADRANGLE LOCATION

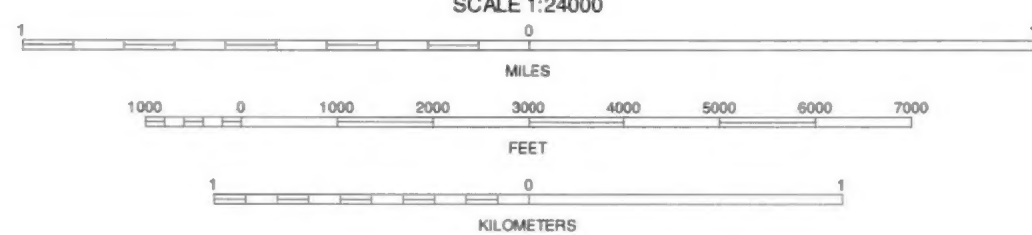
DOYLE, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 79 OF 83

Soil map delineations extending beyond the dashed white quadrangle neartline are for reference only and are included on adjacent map sheets.



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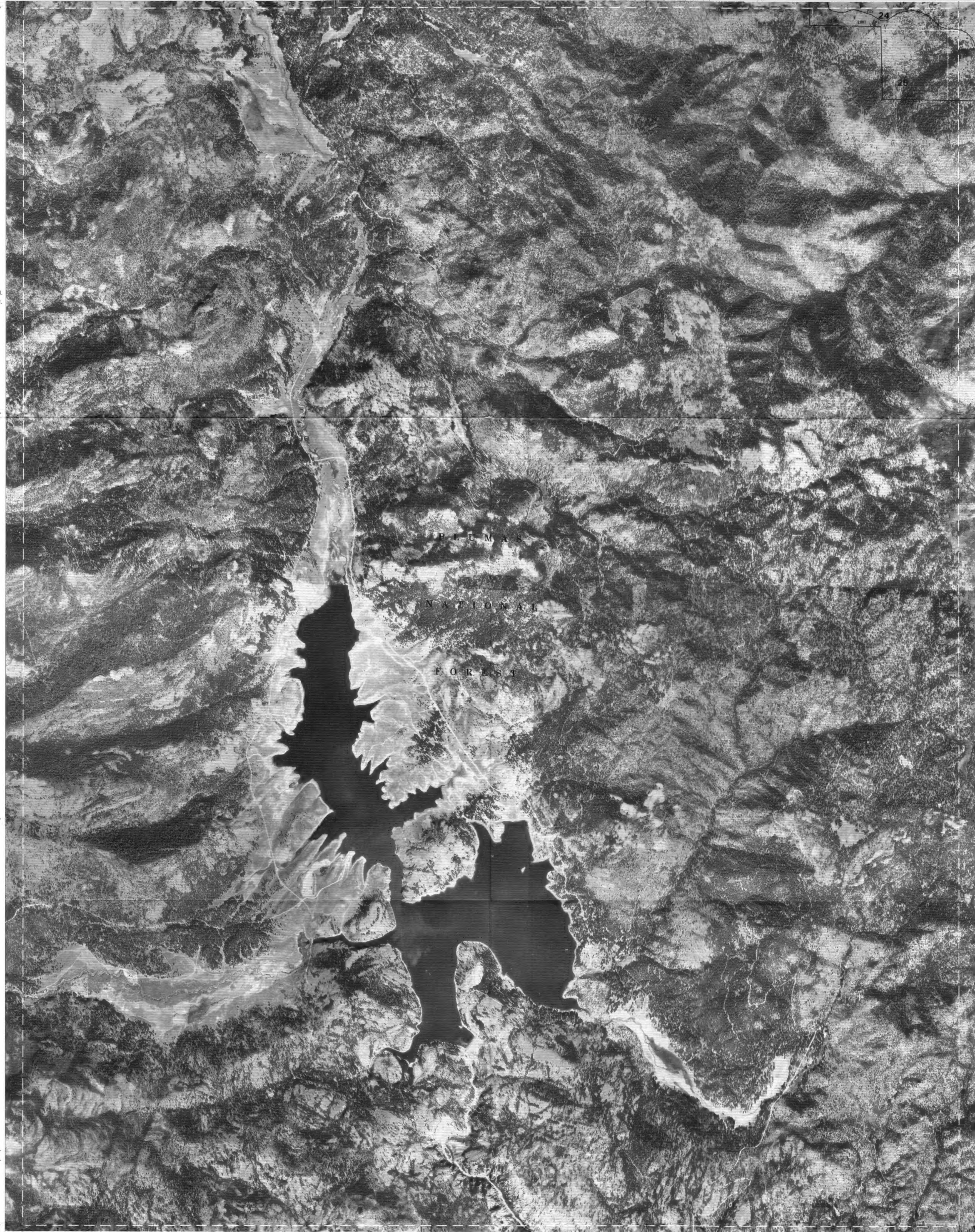
North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks, Universal Transverse Mercator, zone 11.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

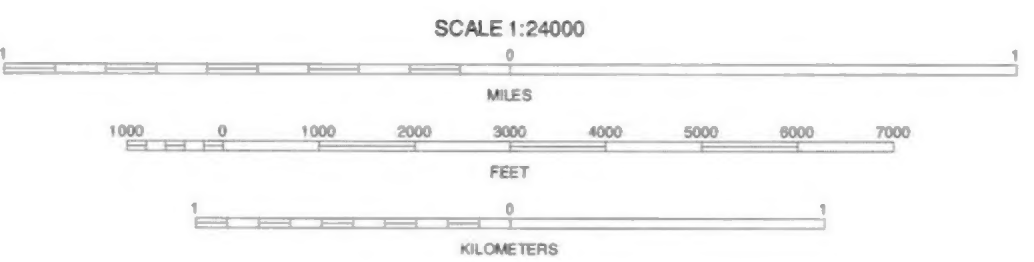
STATE LINE PEAK, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 80 OF 83

Soil map delineations extending beyond the dashed white quadrangle neckline are for reference only and are included on adjacent map sheets.



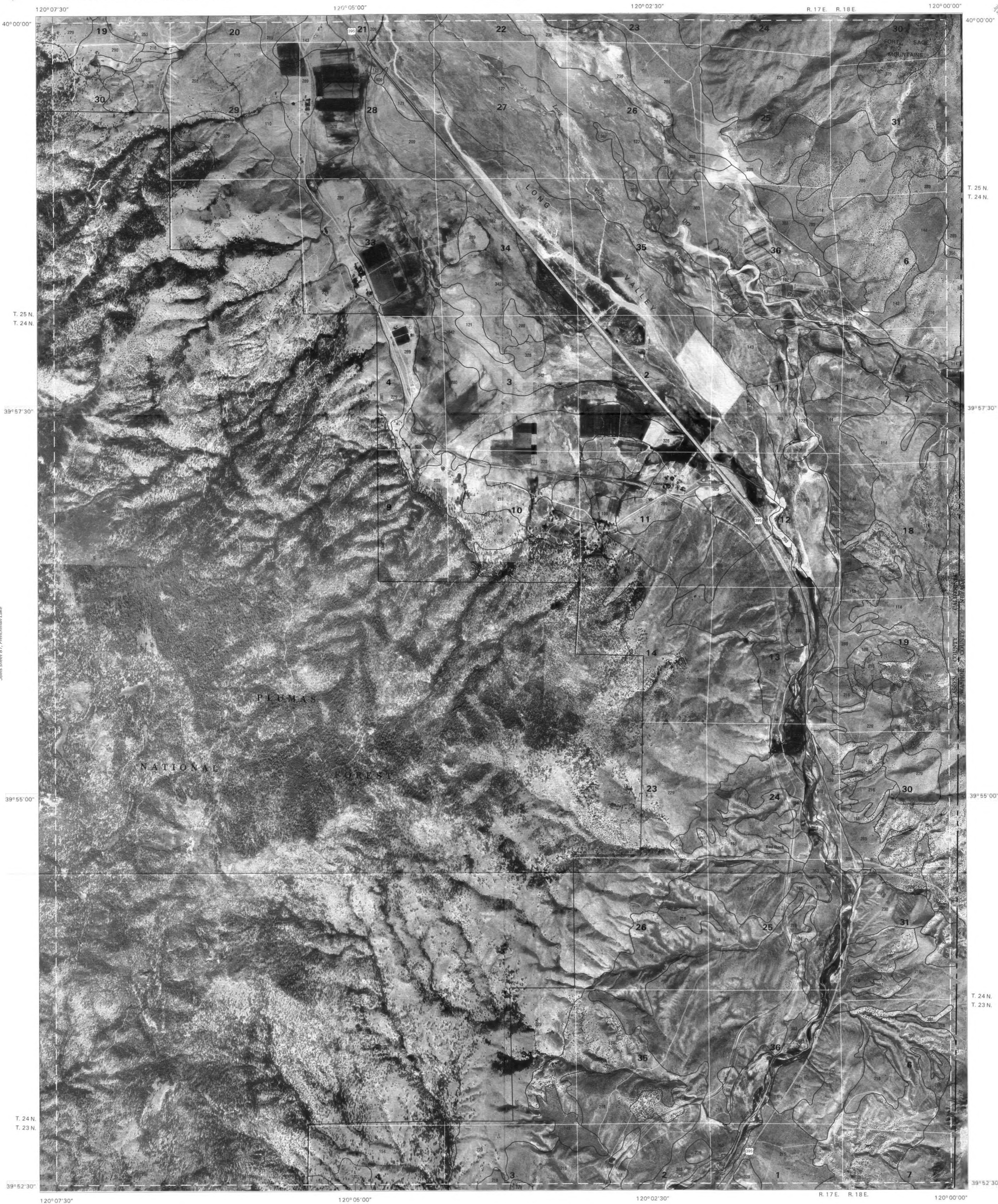
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



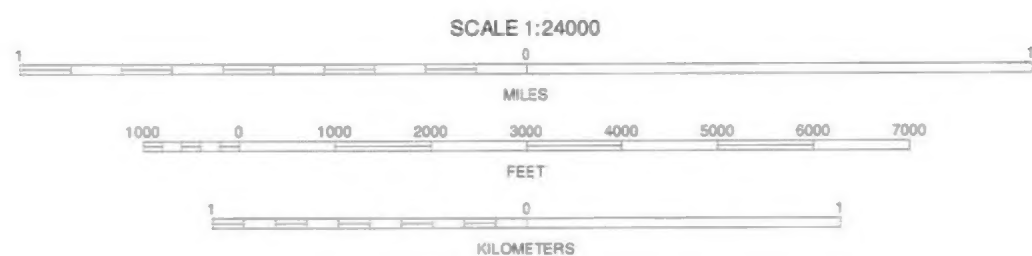
FRENCHMAN LAKE, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 81 OF 83

Soil map delineations extending beyond the dashed white quadrangle nealline are for reference only and are included on adjacent map sheets.



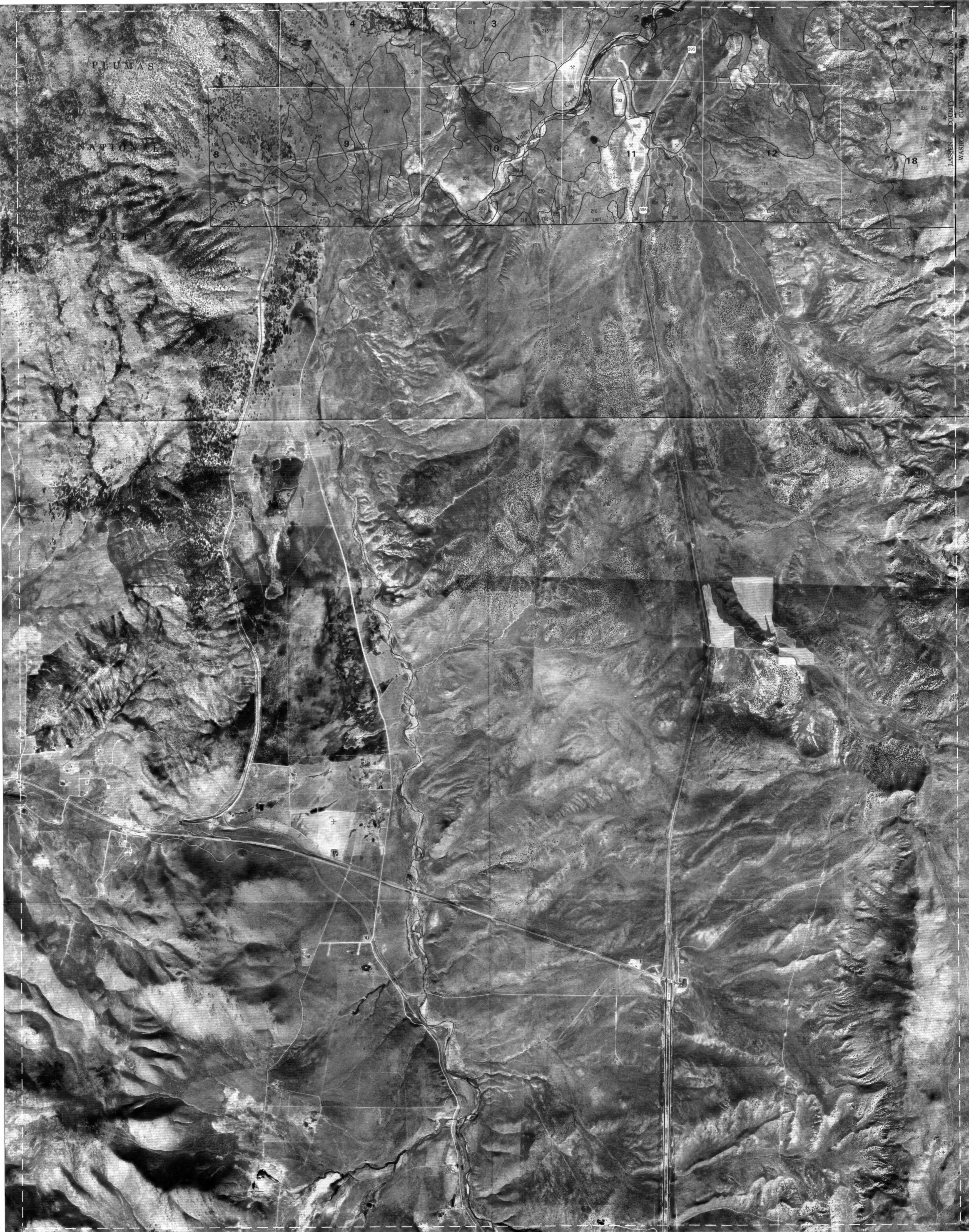
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1993-1999 aerial photography. Public Land Survey (PLSS) was acquired from the U.S. Geological Survey and was added to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

North American Datum of 1983 (NAD83) Clark 1866 1000-meter ticks: Universal Transverse Mercator, zone 10. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



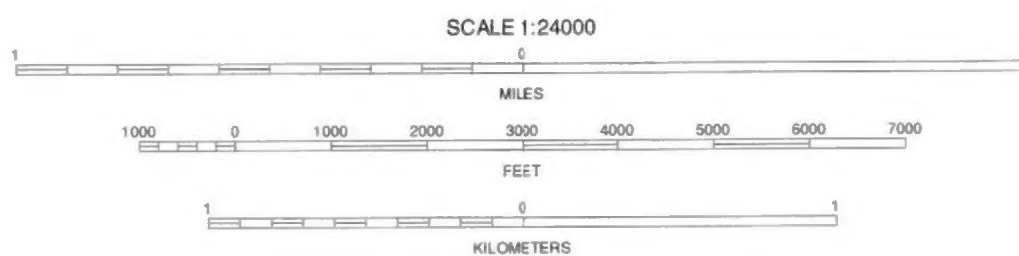
CONSTANTIA & SEVEN LAKES MOUNTAIN, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 82 OF 83

Soil map delineations extending beyond the dashed white quadrangle neeline are for reference only and are included on adjacent map sheets.



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North American Datum of 1983 (NAD83) Clark 1866
1000-meter ticks: Universal Transverse Mercator, zone 10.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

BECKWORTH PASS & GRANITE PEAK, CALIFORNIA
7.5 MINUTE SERIES
SHEET NUMBER 83 OF 83

Soil map delineations extending beyond the dashed white quadrangle headline are for reference only and are included on adjacent map sheets.